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THE OPHTHALMIC RECORD

III

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The April number of the OPHTHALMIC RECORD will contain amongst others, an original article by J. L. Borsch, M. D., "The Closed Artificial Eye;" one by M. F. Weymann, M. D., "Case of Non-Comitant Ribbon-Like Keratitis, with Remarks," one by S. Mitchell, M. D., "Large Wound in the Sclerotic Loss of Vision Recovery with Good Vision;" one by Chas. F. Krauskoff, "Some Results of Dr. Allport's Sight Test Applied to Chicago School Children." There will also Appear Editorials, Abstracts, Reviews, Society Reports, Personals and Items of Interest to the profession.

The RECORD particularly desires short practical papers on any subject connected with Ophthalmology. These will be published at as early a date as possible. It is understood that, unless otherwise arranged, original articles when accepted are contributed to the RECORD exclusively. Illustrative cuts will be made at the expense of the journal, and proofs forcorrection will be sent to authors when desired. Reprints with covers are furnished at cost. One hundred of these will be presented to authors *gratis* when a request for them is written on the original manuscript. The RECORD will be issued monthly, and each number will contain about 54 pages of reading matter.

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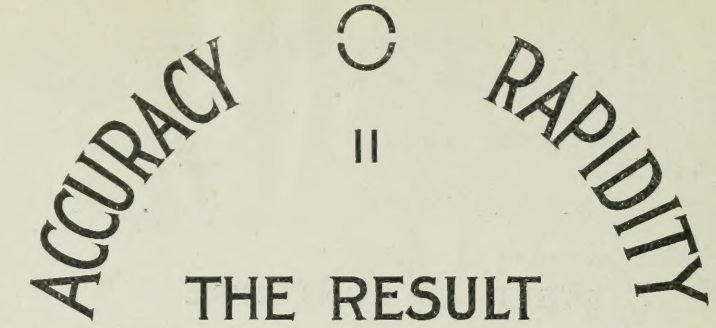

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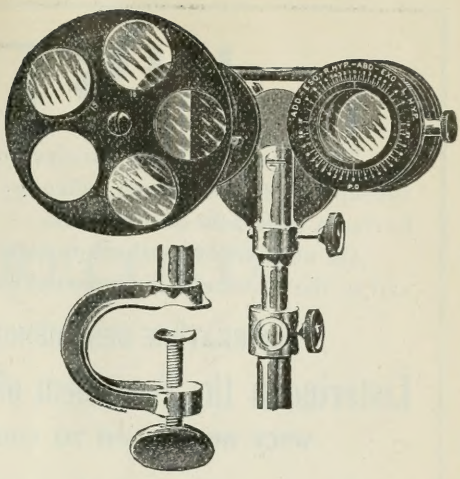

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THE

OPHTHALMIC RECORD

A MONTHLY REVIEW OF THE PROGRESS OF OPHTHALMOLOGY.

VOLUME X. CHICAGO, MARCH, 1901. No. 3. NEW SERIES.

ORIGINAL ARTICLES.

A CONTRIBUTION TO THE STUDY OF INJURIES OF THE EYE.

BY A. LEVY, B. A., M. D.

OF MONTREAL (CANADA), PRO TEM. ROSTOCK, GERMANY.

Air Bubble in the Crystalline.

The blacksmith P., æt. 35, came, on the morning of the 31st May, 1900, to the hospital on account of an injury which he had received three hours previously. While hammering iron a splinter had flown into his left eye. He felt no pain but vision immediately became blurred.

The following was the condition on admission: In the middle of the fairly clear cornea, and entirely piercing it there was a small wound, 1 to 2 mm. long smooth and already closed. The anterior chamber was clear and of normal depth. In the anterior lens capsule, a little inward from the center of the pupil, a fine linear wound could be seen having the same direction and size as the corneal wound. The edge of both wounds were absolutely smooth, and only by strong focal illumination and examination with the binocular loupe could a similar wound leading into the lens substance be seen. The lens itself was fairly clear, and approximately in the middle between the anterior and posterior capsules a strongly refracting body of the size of a small hemp seed could be seen. This body at first sight appeared metallic, and indeed was diagnosed as such. Its form, etc., could not at first be made out on account of the smallness of the pupil,

* Report of two Cases from the University Eye Hospital, Rostock, Germany.

as only a dark reflex was obtained on transillumination with the ophthalmoscope.

After dilatation of the pupil it was possible to make out in the posterior lens capsule a sharp wound similar to those in the cornea and anterior capsule, rendering it manifest that the foreign body had pierced the entire lens. The glistening body was now examined more closely with the Westien loupe and it was noticed to be quite spherical and having the peculiar light reflex of an air bubble, which it was defined to be. The lens substance immediately surrounding it was somewhat hazy. It was now possible to examine the eye ground fairly clearly and a circumscribed injury in the region of the macula lutea, together with retinal and vitreous hemorrhages, were found. With the ophthalmoscope a foreign body could not be made out in the deep parts. There were no air bubbles in the vitreous.

L. V.=Fingers in 2 metres.

R. V.=$\frac{5}{6}$ +0.5=$\frac{5}{5}$. Eyeground normal.

The further course of the case was as follows: During the first week the inflammatory reaction was very slight. The air bubble gradually became smaller until in six days it entirely disappeared. The opacity of the lens did not increase, on the contrary, a commencing star-shaped opacity of the posterior cortex became clear. The wounds in the capsule healed as fine white lines. The hemorrhages on the floor of the eye became at first somewhat larger but they gradually lost their red color. An examination with the sideroscope gave a negative result, which did not become positive after attempted magnetization.

The iris became greenish discolored and some inflammation appeared, the whole of which symptoms disappeared in about two weeks.

When the patient was discharged six weeks after the injury the eyeball was quite pale without the slightest trace of an inflammatory process, the iris of almost normal color. The opacity of the lens remained entirely local, the opacity of the vitreous however became fairly dense.

V=Fingers 2 metres.

An examination recently showed no new changes.

From this history it is quite clear that a small, extremely sharp splinter, pierced the cornea and lens practically in the optic axis.

Whether at the posterior pole it pierced the sclerotic and traveled into the orbit or whether it rebounded from the posterior pole and fell into

the vitreous could not be determined. The ophthalmoscopic picture perhaps indicates the greater probability of a foreign body being present in the vitreous hemorrhages on the floor of the eye; however, on account of the negative result of the sideroscopic examination and because the vision did not become progressively worse, attempts at extraction were not made.

One can with certainty conclude that the foreign body must have been very sharp, from the fact that the wounds in the anterior and posterior capsules of the lens healed without involvment of the iris or further cataract development; in this instance, on the contrary, we could observe the recently oft-mentioned phenomenon of a posterior cortical traumatic cataract clearing up.* And with this the extraordinary, and until now, unique condition of an air-bubble in the middle of the clear lens with an anterior chamber of normal depth and transparency.

The fact that the bubble was carried in by the foreign body through the anterior chamber, is in many points of peculiar interest. In all such cases so far described air bubbles appear either in the vitreous after perforating wounds of the sclerotic or in the anterior chamber after wounds of the cornea.† The observations made at cataract extractions may serve as examples of the latter occurrence.

An air bubble in the vitreous must, as is well known, raise the suspicion of the presence of a foreign body within the eyeball, although they may occur after perforating wounds without the presence within the eye of a foreign body. Our case demonstrates, for the first time, however, the possibility of air being carried through the cornea and aqueous humor into the substance of the lens. In this situation it can, as the present history shows, lead to a diagnostic error and be taken for a metallic body; all the more so as our experience with air bubbles in the vitreous and in the anterior chamber does not apply to air in the lens. While in those situations the air bubbles are always so rapidly absorbed that for instance, according to Haab's statement, after a few hours nothing more is to be seen of them; in the lens the bubble

* We have been able recently to observe such a clearing up three times in one and the same case. The capsule wound had healed with involvement of the iris and the posterior cortical cataract which had formed, cleared up. The adhesion of the iris to the wound was, however, not quit firm, so that twice aqueous entered the wound and each time a posterior cortical cataract formed which cleared up, until finally a progressive cataract commenced in the Anterior cortex.

† Of Praun, "Die Verletzung des Auges", p. 352, 1899, J. F. Bergmann, and the dissertation of Viefhaus (Kiel) 1894. In the latest edition of Haab's "Ophthalmoskopie" there is a drawing of an air-bubble in the vitreous.

remained visible for days; it became very slowly smaller, and only on the sixth day had it entirely disappeared. This observation is further evidence of the extremely slow metabolism of the lens.

The resemblance of an air bubble to a small metallic body may be much greater in the lens than in the anterior chamber or vitreous; for in the latter situations the characteristic spherical form will of itself enable a differentiation to be made, quite apart from its rapid disappearance. In the firmer resisting tissues of the lens the air bubble must take the form of the wound; therefore, a perfectly spherical form is not a priori to be expected.

Finally with such sharp and fine wounds the presence of an air bubble in the lens will be unexpected and therefore greater care in the differential diagnosis will be necessary, for with the larger perforating wounds, the presence of an air bubble in the lens would cause us less surprise.

Wandering Necrotic Scleritis Following Trauma.

The laborer D., æt. 63, came to the hospital on the 31st March, 1900, on account of marked inflammatory symptoms in the left eye, with the following history:

Two weeks previously while at work chopping wood a splinter flew into his eye. The eye immediately became inflamed and painful, and remained so in spite of treatment.

On admission the following condition was found:

Right eye somewhat hyperæmic, otherwise normal.

Left eye. Palpebral fissure narrower than opposite side; upper lid showing light ptosis, some swelling with considerable injection. In the inferior internal part of the bulbar conjunctiva about 1 to 1½ mm. from the corneal limbus there is a small wound about 1½ mm. long with smooth, though somewhat thickened edge, evidently the site of the primary injury. This spot is tender to pressure and very manifestly swollen. No foreign body could be found. In the center of the cornea there is an old translucent spot of the size of a hemp seed. The anterior chamber is of normal depth. The pupil moderately large (atropine effect) and shows in its upper part a small posterior synechia, which soon gave way. Iris is hyperæmic and shows some greenish discoloration. Eye ground normal. Tension normal. Pressure in the center of the upper part of the eyeball causes considerable pain.

$$\text{R. V.} = \frac{5}{12} - \frac{5}{11}; + 0.5 = \frac{5}{6}$$

$$\text{L. V.} - \frac{5}{50}; + 1.0 = \frac{5}{50} - \frac{5}{36}$$

The further course of the case was as follows:

After a few days a dacryocystitis with stenosis could be made out on the left side. The conjunctival wound became discolored and it was possible with the sound to go up into the wound for about 3 mm. when a small quantity of pus made its appearance; this canal was split open. On the next day the edges of the wound were quite white, resembling diphtheritic or necrotic tissue. The tear sac was completely extirpated under cocaine anæsthesia.

Ten days after admission the tenderness of the upper part of the eyeball had disappeared, and had decreased very much below at the point of injury. The tear sac operation wound healed by first intention, but the wound of injury still had a necrotic look. This part gradually became of a yellow color, and the surrounding conjunctiva for a considerable distance became inflamed and swollen. The suspicion of the presence of a foreign body still being present the yellowish colored conjunctival prominence was excised and the bulbar conjunctiva around about was dissected free from the muscles, which proved very difficult to do on account of the strong inflammatory adhesions. No foreign body could be found. Cultures made from this excised piece showed staphylococcus and xerosis bacillus. The microscopical examination showed only an ordinary vascular granulation tissue. Following this operation the swelling and injection at this point became somewhat less, only to return a week later when a yellowish white prominence began once more to form. After a few days these symptoms commenced to disappear. The conjunctival swelling gradually became less, the cornea became clear, and a few synechiæ showed themselves on the inner side of the iris. The nodes slowly disappeared but the whole under half of the bulbar conjunctiva became very much injected and the episcleral tissue showed diffuse swelling.

Six weeks after admission new scleral prominences, which were extremely painful, began to form in this area of diffuse inflammation. On the outer side, at about the equator, the sclera was driven forward in the form of a node or tubercle, the conjunctiva over this spot became much more swollen and red. This node in the course of the next two weeks became more extensive and more prominent, and then it moved downwards, at the same time increasing in size, so that finally a flattened spherical prominence about the size of a hazel nut formed, so large as to permit its palpation quite easily through the lid. As this relapse did not improve in the course of the next four weeks, a bit

was excised from the prominence, both for therapeutical and diagnostic purposes. At the operation the conjunctiva bulbi was everywhere found to be much thickened and so adherent to the eyeball that it was impossible at any point to seize a fold for the purpose of fixation. A part of the excised bit was implanted in the anterior chamber of the eye of a rabbit and the other prepared for microscopic examination.

At this point patient began to be treated by daily applications of the galvanic current, in strength ½—1 m. a., the individual sitting lasting half an hour. The injection and swelling became less, and particularly the pain, which was very marked all through, rapidly disappeared. The eyeball became paler and then took on a bluish or slaty gray color which gradually spread over the whole eyeball.

The patient was then discharged, the scleritis having lasted altogether four months.

$$V = \frac{5}{36} - \frac{5}{24} : +2.0 = \frac{5}{18}$$

Md. 6 with +5.0.

Binocular vision present.

An examination recently showed no new change.

The bit of excised tissue implanted in the anterior chamber of a rabbit's eye healed in without any reaction. The microscopical examination of the excised bit showed an ordinary granulation tissue filled with small round cells. No appearance of giant cells or other evidence of a tuberculous process could be discovered.

This case is remarkable because in itself it shows a rare form of scleritis and because a particular form of traumatic scleritis has not as yet been described. That in cases of septic perforating wounds of the eyeball the sclerotic may be involved, and be, secondarily, more or less extensively destroyed, is well known; indeed, in some cases of panophthalmitis it may become entirely necrotic.

With these well known changes we have not here to deal; but following a small wound in the bulbar conjunctiva reaching into the episcleral tissue we find a peculiar chronic necrotic form of wandering episcleritis, in the course of which we find all the peculiarities of a true scleritis. In spite of all treatment the process spread until it involved the whole eyeball. It caused great pain, and when it finally healed it left the peculiar blue or slaty gray discoloration of the whole sclerotic, together with strong adhesion of the conjunctiva to the sclera.

The course of this strange course is not at all clear. The prominences with their yellowish white spots and chronic character clinically

suggested tuberculosis, but neither the transplantation of a bit of such tissue nor the microscopical examination nor cultures gave the slightest support to such an opinion; on the contrary, the excised granulation tissue showed absolutely no tuberculous structure.

Extremely peculiar was also the ever recurring whitish necrosis of the episcleral granulation tissue, even after thorough scraping of the wound and its surroundings on two different occasions. It reminded one of the ulcerating form described by *Giese* and by *Draudt;** for the understanding of which it does not seem to me to be without interest that we were able here to observe such a necrosis as the immediate sequel of a peculiar form of wound infection, the cause of which, indeed, we were unable to discover.

That the wandering scleritis here described was really caused by the trauma, and did not accidentally coincide with it, is certain; for the inflammation commencing in the wound extended, under our observation, from this point gradually over the whole eyeball.

Our observation is another evidence of the manifold ætiology of the tubercle forming chronic scleritis. We must beware of too much simplification and of ascribing a priori, too much significance to tuberculosis.

Finally, the favorable influence which the galvanic current seemed to have upon the process was of great interest to us. It was only after the commencement of the electrical treatment that the severe pain and inflammatory changes improved, so that it conveyed the impression that the influence of a current of ½—1 milliampere with half hour sittings was of distinctly favorable effect. Von Reuse,† as is known made a large series of experiments with the electrical current in the treatment of diseases of the eye, and recommended it also in scleritis. His procedure, however, differs in so much that he placed the electrode directly upon the scleritic prominence in order to obtain an immediate electrolytic action. A trial of the galvanic current with long sittings is at least to be recommended in cases of scleritis, that extremely stubborn and often hopeless disease.

I wish to tender Professor Axenfeld my sincere thanks for the assignation of this work, as well as for his kindly assistance in carrying it out.

* Inaugural Dissertation. Heidelberg, 1900.

† Cf. "Beiträge zur Augenheilkunde. Heft. xxiii, Juli 1896.

A CASE OF SUBACUTE RETRO-BULBAR OPTIC NEURITIS, FIRST IN THE LEFT EYE, LATER IN THE RIGHT EYE.*

BY EDWARD SWASEY, M. D.,
Ophthalmic and Aural Surgeon in the City Hospital.
WORCESTER, MASS.

The following case I saw for the first time at my office on January 10, 1900. A young woman, 21 years of age, in good health and had always had good health with the exception of one year ago she had the grip, not in severe form, and subsequently an attack of subacute rheumatism of the ankles. The only important fact found in her family history is that her father has since January last died of malignant disease of the liver, probably cancer. Her mother and only brother have always been healthy, and no eye trouble can be found in this family history. Her personal history is that of an unmarried, hard-working young woman behind the counter in a confectioner's store. She is a happy, healthful girl, and no sign of a morbid mental disposition, and not a suggestion of the hysterical turn of mind. During the last two weeks of the previous December she had had some headache, but nothing that particularly disturbed her. About Christmas time the family physician told her that her father could live but a short time, as that trouble of the liver was rather rapidly increasing. This announcement resulted in a prolonged attack of crying, and the next morning her eyes were red and the lids swollen, and a decided increase in the headache and more localized on the left side of the head and about and behind the left eye. In a day or two following this she began to notice a blurring of the sight in the left eye. It was not so troublesome or decided as was the headache, which had increased constantly, so that by the first week in January it prevented sleeping at times, and on the night of January 8 she walked the floor trying to get some relief. Up to January 10, when she first came to me, the headache had continued, but not quite with the same degree; the blurring of sight was more decided than at first, but she kept at her work in spite of her suffering and poor vision in the left eye. She went to a local optician to have some glasses fitted, but he, finding the vision so impaired in the left eye and no improvement by any glass he could

* Case reported at the meeting of the New England Ophthalmological Society, Nov. 6, 1900

try, referred her to me. The examination showed a moderately dilated pupil in the left eye, but decidedly more dilated than the right; it was not affected by a bright reflection from my ophthalmoscope mirror in the dark room, while the right pupil quickly contracted to this same light and to a pinhead aperture; the left pupil followed this contraction rather slowly. No external appearance in the left. The eye was not congested. The media were all clear, but the face of the optic nerve was pinkish red, the outline so blurred that it seemed to merge into the tissue of the retina; the veins were dark, swollen and tortuous, the arteries not much if at all changed in appearance. The whole picture seemed typical of some intracranial growth and the choked disc that accompanies it. The tension was normal, but pressure upon the globe gave some pain, but not very severe. The localized headache still existed and was much increased by stooping forward, and this had been noticed for some time. The extreme lateral and up-and-down movements of the globe increased the pain. There was no exophthalmos. She could not see the light from the ophthalmoscope mirror in the dark room, but when taken before a bright window she could locate the light with the left eye. With the right eye vision was $\frac{20}{15}$—. She protested that her father's condition and the home conditions would not allow her to remain away from her work, and she much preferred to keep at work and her mind occupied. She was put upon ten grains of the iodide, to be increased as rapidly as her stomach would permit, three times a day; and fifteen grains of the bromide four times a day, for the headache. Two days later, by the 12th, the headache was decidedly improved, and I put two leeches behind the left ear. The face eruption and the stomach disturbance of the iodide were well pronounced by the time twenty grains t. i. .d. were reached. By the 14th the vision in the left had so improved she could count fingers and begin to see my features at about two feet distance. The face of the optic nerve was improved in appearance, not so pinkish, and the outline was less hazy. From this time on the improvement was rapid and uninterrupted. In a few days she was put upon the pill of iron and strychnia, $\frac{1}{30}$ of a grain, and the iodide and the bromide were continued. By the 20th, or ten days after I first saw her, she could read $\frac{20}{200}$. Improvement continued and the disc was rapidly recovering its normal appearance, though

the veins were still somewhat darker and larger than those in the right eye by March 1, when she could read $\frac{20}{30}$ with the left. The field was normal at this time, and for colors as well. She had no central scotoma for colors, and could tell the green, the blue, yellow and red discs $\frac{1}{4}$ inch square without hesitation. There was no change in these conditions until January 22, when she began to have pains on the right side of the head, similar in all respects to the beginning pain that she first experienced on the left side. It was in the right temple and about and behind the globe. The next day the vision in this eye was reduced to $\frac{20}{200}$. The disc showed blurred outline and was congested and pinkish. The veins were large and dark-colored, like those in the right eye, but not to the same extent as when I first saw her. The pain in head had increased in the twenty-four hours. The movements of the eyeball were uncomfortable and firm pressure was somewhat painful. The pupil was somewhat dilated and sluggish in action. In twenty-four hours more the vision was reduced to seeing large moving objects, and she was not able to count fingers at two feet. She was taken from her work, three leeches were applied on the mastoid and two just back of the outer canthus. She was not allowed to use the eyes but she was not confined to a dark room. The bromide and iodide were taken four times a day. The iron and strychnia were, for the time being, discontinued. In forty-eight hours from the time of using the leeches the vision had come up to $\frac{10}{200}$, and in another twenty-four hours to $\frac{20}{200}$. From this time on there was a steady improvement, both in the vision and the appearance of the disc, so that in one week from the onset in this eye she could read $\frac{20}{70}+$ and at the same time vision remained $\frac{20}{30}+$ in the left eye. With the left she could read J No. 4, and color sense was unimpaired. Subsequently she could quickly tell the colors in the small squares with the right eye. Improvement continued in both, and by March 10 she had recovered her normal vision of $\frac{25}{15}+$ in each eye, the field in each was normal and colors in each normal. The headaches have not returned since the attack on the right subsided, and this was but a few days' duration after the use of the leeches. She is hypermetropic one diop. and has astigmatism of 1. For near work she is given the compounds of $+.50\bigcirc+.50$ ax. 90, but most of the time she is quite independent of any correction and insisting that her eyes

were so comfortable and vision so good she must return to her work at the end of one week.

I have since then kept watch of this case, and there has been no return of any trouble. She at times uses a simple cylinder of +.50 axis 90 and thinks they rest her eyes, but the compounds she has abandoned. Up to the present time it appears to be a perfect recovery of a serious case of temporary blindness. I could find no cause for these lesions. She almost never took any of the candies or other foods from the store. Whether it was a manifestation of her rheumatism I do not know. The store is well situated and dry. She was and had been perfectly regular in her menses.

It so happened that I had just dismissed from my service in the city hospital what was undoubtedly a case of toxic amblyopia, and in contrast to this case let me recall it. A female, 32 years, came into the hospital for complete blindness. The history was that for some trifling complaint she had taken some medicine from a physician, but I could not find out who he was, for she had forgotton, and his location, and there was no way of tracing the prescription. The blindness had come on shortly after taking this medicine. Some days later, when she came to the hospital, the pupils were dilated to maximum and immovable to the brightest light. The optic disc was clear white and blood vessels narrow. There had been no headache, but the failure of sight had been quite rapid, a few days only, till complete blindness resulted. It was more than a week, under full doses of strychnia, hypodermically, before this patient began to see the strongest light. After this the improvement was very gradual, but constant. It was some two months or more before she could go about the wards and care for herself. When she left the hospital the pupils had returned to almost their normal size and responded well to light. She left the hospital before a record could be made of her vision or field, or colors. But she had good useful vision. My first case went through the various changes of onset, blindness and recovery in about the time required to begin to get improvement in the toxic case.

To my mind the first case seems most naturally to fall under the classification of subacute idiopathic retro-bulbar neuritis. But I have reported it here for discussion and enlightenment. One of the most important contributions to this subject is, undoubtedly, Nettle-

ship's report and analysis of 120 cases of retro-bulbar optic neuritis, in the Royal London Ophthalmic Hospital Reports for May, 1899. Of this number 88 were of the idiopathic variety, and in this the females outnumbered the males two to one, or 58 females and 30 males. In 60 out of these 88 patients the ages were from 20 to 40 years. And in these younger patients the females far outnumbered the males. And with this preponderance of females the menstrual function has been called upon to account for this lesion of the optic nerve. In my patient there had been no irregularity in this function. In Nettleship's cases pain about and behind the affected eye, increased by movements and pressure, was very common. Usually it is unilateral, and if the other nerve becomes affected an interval, commonly of months, may occur. The failure of sight is usually rapid, twenty-four to forty-eight hours bringing all shades of loss of vision, even to loss of perception of light. There may be no external signs of inflammation in the subacute variety. In idiopathic cases the ophthalmoscope will usually show early changes at the disc. There may be only a slight haziness and blurring of outline; they may go to qnite a degree of Papillitis. If improvement begins early complete restoration of sight may, and usually does, result. Most of Nettleship's cases that made a good recovery did so under a vigorous form of treatment. By May 1 my patient could read J No. 1 with each eye, correctly told small bits of color, and each eye had vision of $\frac{20}{15}$—. These all remain so now.

In Norris & Oliver, volume III., page 617, I find these statements regarding acute retro-bulbar neuritis: "It is usually accompanied by severe pain in the eye, back of the eye and over the forehead, marked disturbance of vision, which commencing with dimness of sight ends in total blindness in the course of one or several days, sometimes even a few hours. Generally both eyes are affected. In less violent cases only one eye is involved, usually the left one. The slightest pressure on the globe elicits pronounced pain and reaction. Very often it can be proven that the external limits of the visual field are nominal, only color perception is wanting, and scotoma, which later may grow externally." Of the subacute forms it states: "Are accompanied by evidences of pain in and back of eye, as well as on pressure and movement of the globes.

They also lead to amblyopia or amaurosis of short duration, while the presence of absolute scotoma can generally be demonstrated."

It would seem that my case met all the requirements of the subacute variety except the central scotoma and loss of color perception. I was not able to demonstrate the existence of either, but very likely I waited too long before making this examination, for it was not till the eyes had nearly recovered their normal vision before this was done, but it was then repeated several times.

Discussion. In the discussion which followed, Dr. O. D. Wadsworth, of Boston, said he recalled a recent case of a woman some thirty-two years of age, in whom there was some pain in and about the eye. This was followed by rather rapid loss of sight, but not to complete blindness. Movements of the globe were somewhat painful; the disc was pinkish and the outline blurred. The sight rather slowly returned, and soon after the other eye went through the same stages, and then this eye slowly recovered its sight. Soon after this she had some pains in the back and shoulders and back of neck. She was under the care of her family physician and went South to recuperate. He had seen some other similar cases and had regarded them as cases of retro-bulbar optic neuritis. Again, he had seen cases where the face of the optic nerve was decidedly elevated and the outline blurred, and presented the appearance of well-marked papillitis. But the vision in these eyes was normal and had been so for many years. He had kept watch of these cases for many years with this same appearance of the disc continuing, and he had regarded these conditions as congenital anomalies and not at all significant of pathological processes. Dr. C. H. Williams, of Boston, recalled a case where there was every appearance of unilateral chōked disc from intra-cranial disease, and among other symptoms was well marked vertigo. Several prominent neurologists had given a diagnosis of probable cerebellar tumor, and an unfavorable prognosis. It was in the person of a young woman, a school teacher, but after several months of these symptoms she gradually began to improve and finally entirely recovered, and the optic nerve cleared up and she was well several years afterward. He spoke of this case as a caution in being too pronounced in diagnosis and especially prognosis in such cases of apparent serious brain lesions. In connection with such cases as Dr. Wadsworth and Dr. Williams

had related, Dr. Capron, of Providence, recalled a case that he once saw while an assistant in Dr. Knapp's clinic in New York. Dr. C. had tested this patient's vision and found it normal in each eye; subsequently, on using the ophthalmoscope, Dr. Knapp had pronounced this a case of optic nerve atrophy, and called for the record. He could hardly credit the findings in a case so almost typical of atrophy. Dr. Capron asked Dr. Wadsworth if in his experience he had seen cases such as he had related undergo apparent atrophy, and yet have normal vision in each eye. Dr. W. did not then recall such cases. Dr. Standish was not disposed to regard cases such as had been related, that were non-toxic, as cases of retro-bulbar optic neuritis. He believed cases like the one reported in this paper and by Dr. Wadsworth to have their seat of origin within the brain, and that subsequent events, in the history of these cases, would probably show that the optic nerve lesion was but the first signal of events to follow. But a true retro-bulbar neuritis, with the lesion in the nerve anterior to the optic nerve foramen, and in almost all cases having a toxic origin, were quite a different matter from these cases of non-toxic origin, so far as we can ascertain from the histories. Dr. W. B. Lancaster, of Boston, was disposed to regard the various dyscrasia of some patients, rheumatism, gout, lithaemia, etc., as acting as the necessary toxic agent, which, under peculiar conditions of the systems of patients and a local exciting cause, may and does give the localized lesion just back of the globe. Dr. J. J. Putnam, of Boston, said he believed this was the proper explanation of these cases.

Dr. W. B. Pineo and wife, of Minneapolis, have gone to Europe for a visit to the British Isles and the Continent.

Dr. Jay W. Seaver, the director of the Yale gymnasium, in a physical examination of the present freshman class of Yale University, found with regard to the eyes that only 43 per cent of the class had normal vision. Eighteen per cent were obliged to wear glasses, 18 per cent were near-sighted, and 21 per cent were afflicted with either hypermetropia or astigmatism. Fifty-seven per cent, therefore, of the class had defective vision.—*The Keystone.*

A CASE OF INFLAMMATORY GLAUCOMA PRESENTING UNUSUAL FEATURES.*

BY S. D. RISLEY, M. D.,
PHILADELPHIA.

The following case of acute inflammatory glaucoma presents some unusual features which have prompted its presentation to the Section. Mrs. X, aged seventy-one years, a large swarthy woman with opaque muddy skin and suffering from lithaemia aggravated by sedentary habits, came to me in the spring of 1898 with a large conjunctival ecchymosis of the right eye spreading over the inner half of the eyeball. She related that she had been extremely nervous since her menopause and that she still, although sixty-eight years of age, suffered with flushes of heat followed by perspirations. There was a goitrous enlargement of both thyroids which she has had since early life, but thinks they are not as large now as formerly. Tachycardia was not a marked symptom, but was readily induced by excitement of any kind, or by fatigue. There was no exophthalmos. There was present a low grade of hypermetropic astigmatism in both eyes but with correcting glasses V.=$\frac{6}{6}$ in each eye, notwithstanding the fact that there was a few spicules of opacity in the lower and inner quadrant of both lenses. The conjunctival ecchymosis rapidly absorbed and she received a pair of correcting glasses for distance with a reading segment below. She was not seen again until November 22, 1900, when she came complaining of pain and failure of sight in the left eye. It had been treated for "pink eye" for ten days, when the pain and loss of sight in it led her to seek advice. There was not only marked conjunctival injection but the anterior perforating vessels were large, dark and tortuous, the cornea was steamy, the pupil dilated and the anterior chamber almost obliterated. No view of the fundus was obtainable. Tension was + 3, vision reduced to counting fingers with difficulty at one foot, and the field of vision contracted almost to fixation point. She had suffered at intervals since the onset of the attack from pain and transient attacks of dim vision with a halo around the gas flame, but for several days the pain had been constant both in the eye and left side of the head and at times intense. The *right eye* was white, tension normal, pupil reacted

* Read before the Section of Ophthalmology of the College of Physicians of Philadelphia.

promptly to light and shades, there was no pulsation of the retinal arteries and V.=$\frac{6}{6}$. She was detained in the office for three hours and a solution of eserine repeatedly instilled into the left eye with the result of lowering the tension and contracting the pupil, while vision rose to counting fingers at three feet and the pain disappeared. She was then dismissed, but while waiting for the return of her daughter the vision in the right eye became dim, and the eye painful. Vision had fallen to $\frac{1}{10}$, T. = + 2, the pupil was dilated, and the ophthalmoscope showed a well marked retinal pulse. Eserine solution gr. $\frac{1}{2}$ oz., massage and hot compresses were directed for local use at home, and a saline purge prescribed. The following morning tension was normal in both eyes. O. D. V. = $\frac{6}{6}$ pupil contracted, field of vision normal. O. S. V. = $\frac{6}{10}$ but field contracted on temporal side to the fixation point, elsewhere to 10 degrees. The eye was injected but anterior chamber restored, pupil contracted to 2 m.m. and the steaminess of the cornea was much reduced. Her pain had disappeared. She then received internally salicylate of soda and the eserine was continued less freely. Two days later, after imprudence in diet which was followed by an attack of indigestion, there was a complete recurrence of the symptoms in the left eye. She was then admitted to a private room in the Polyclinic Hospital and a periphoral iridectomy performed with a broad bent keratome. Bleeding was profuse and the eye was bandaged with the anterior chamber filled with blood. The wound closed promptly without reaction, the pain disappeared and the tension was normal; the blood clot absorbed slowly, but at the end of two weeks had disappeared and permission was given to leave the hospital. Before her preparations for returning home were completed she suffered an attack of increased tension and almost complete loss of vision in the right eye, but without marked injection of the ball. The vigorous use of eserine once more reduced the tension and stopped the pain but the impairment of vision persisted. Two days later a broad iridectomy was made upwards. The bandage was removed the following morning and she was greatly delighted at the improved sharpness of sight in the right eye which, notwithstanding the reduction of tension under the eserine, remained very dim at the time of the operation. When the bandage was again removed forty-eight hours after the operation, she complained of dim vision, although T.—n., but investigation with the oblique light revealed a small hemorrhage in the upper part of the coloboma spreading over the anterior

capsule of the lens. This absorbed slowly leaving a grayish white patch over the upper part of the lens in the center of the coloboma. A careful study now revealed that the hemorrhage had spread also into the anterior layers of vitreous, apparently between the lens and the vitreous, causing a posterior capsular opacity. Vision was reduced to counting fingers at two feet. No study of the fundus was possible. Two weeks from the date of the operation the lens was found to be swollen, strongly reflecting and opalescent throughout and rapidly becoming cataractous. The tension was normal in both eyes, there was no contraction of the field in the right, and no improvement in that of the left but the central vision with correcting cylinder was 6+

This case furnishes an example which, but for the accident of having detained her for three hours in my waiting room, would pass for the precipitation of an attack of acute glaucoma by an operation on the fellow eye—an occurrence which has never fallen to my lot to witness. It would certainly have passed for such had I not observed the sudden onset of transient glaucoma in the hitherto healthy eye.

Consalvo has observed an epidemic of conjunctivitis and pneumococcus was found constantly in the secretions. It is a contagious affection, attacking persons of all ages. The acute attack terminates in about ten days. It has a tendency to become chronic, but remains benign and rarely compromises the integrity of the eye.

The Human Eye and How to Care for It.—Dr. Reik, writing in the *Cosmopolitan* for September, says that the excessive use of alcohol and tobacco affects the eyes very seriously and that for some people tobacco is a poison and produces a lesion in the nerve of the eye leading to blindness. The most important thing, however, in order to take care of the sight, is to get sufficient light to work and read by. The most desirable location of light to read by is from above, behind and to the left of the body. Of artificial lights the incandescent electric is the best, though the use of incandescent mantles has much improved gaslight. Where coal oil is the only illuminant the so-called student lamps make a very satisfactory light.

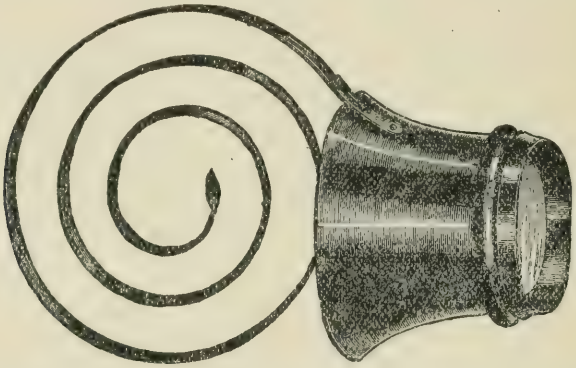
JEWELER'S LOUPE FOR EXAMINING THE EYE.—MIRROR MONOCLE.

BY GEO. F. KEIPER, A. M., M. D.,

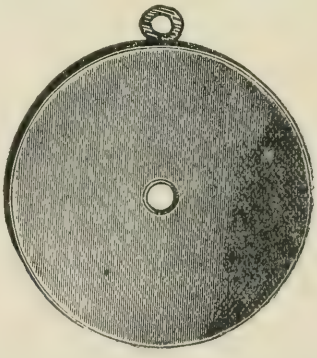
Eye and Ear Surgeon to St. Elizabeth Hospital, St. Joseph Orphan Asylum, Children's Home, etc. etc.

LA FAYETTE, IND.

Dr. R. B. Wetherill, of our city, some time since showed the writer the use of the ordinary jeweler's loupe in examining the front portion of the eye. Believing that it should have wide use the writer



takes great pleasure in submitting to the profession Dr. Wetherill's idea. The simplicity and small cost of the instrument commends it to all. It can be bought for twenty-five cents. The magnification



secured by its use is very helpful in locating very small foreign bodies embedded in the cornea. In using the loupe both hands are left per-

fectly free, the one to open the eyelids and fix the eyeball, the other to handle the spud. By its use details of the conjunctiva, cornea, iris and lens are made out, which could not be seen with the naked eye.

The following is submitted as a help in removing foreign bodies which cannot be seen, by having the retinal reflex as a background after dilating the pupil with a weak solution of homatropine. The patient is taken into the dark room and the mirror is worn just as the Englishman wears his monocle. It is one and one-half inches in diameter with a hole through the center through which the operator looks. Again both hands are free, the one to use the spud, the other to hold the eyelids open and to fix the eyeball. The mirror is a plane one and can also be used for retinoscopy.

Parents whose children are in attendance at the Thomas Hoyne School, Illinois and Cass streets, Chicago, Ill., are about to circulate a petition asking that the building be torn down. Their reason for this action is that the place is too dark, because of surrounding high buildings, that it is necessary to keep gas burning, and it is asserted that children are ruining their eyes trying to study under such circumstances.

Ophthalmic History of an English School.—Stephenson reports the history, as regards contagious eye troubles, of an English charitable institution in London—the Hanwell School. The one great lesson it offers is that trachoma, no matter how prevalent or of how long standing, can be stamped out and that the continuance of such a condition in any institution is a standing reproach to its management, both lay and medical. The special measures taken were the erection of an isolation building and the complete remodeling of the main structures, which hastened and brought to rapid end the disease, which had been under strictly medical measures in the old structures with only very gradual lessening.

A CASE OF LEFT HOMONYMOUS HEMIANOPSIA, PROBABLY HYSTERICAL.*

BY M. W. ZIMMERMAN, M. D.,
Ophthalmic Surgeon to Germantown and St. Christopher's Hospital.
PHILADELPHIA.

ILLUSTRATED.

In February of 1899 I reported some hysterical visual fields before the Philadelphia Neurological Society, but was unable to include any cases of undoubted hysterical hemianopsia. I have, however, since then studied the following patient who furnishes, I think, an instance of this symptom:

Mary M., aged twenty-five years, was a fairly intelligent servant of good habits, with a history of average good health, and none of injury to the head. During the previous two years she had perhaps half a dozen convulsive seizures with unconsciousness, which were distinctly epileptoid in type. The tongue had been bitten in at least one attack. There was no distinct aura except brief nausea. Her recent menstrual periods had been delayed and accompanied by some pain, also marked headache and asthenopia. A sudden and severe attack on June 3, 1899, led to her admission into the wards of the Germantown Hospital, where on the same day she had seven convulsions, with flexions of both arms and both legs, some turning of the head from side to side, and equally contracted pupils which did not respond to light. She began menstruating two days after admission and on the following day had two brief convulsions, one half hour apart, both terminating abruptly in complete consciousness. At this time I made the first ophthalmoscopic examination, but failed to find anything abnormal in the media or eyegrounds. The brief bedside tests possible at this time demonstrated an absence of all vision, except perception of light, in the left halves of both visual fields. Three days later the patient's condition permitted me to make careful perimetric records as to form and red in the right eye and on the following day, similar records for the left eye.

These fields were subsequently verified several times, but although the limits for green and blue were shown by rapid tests to exhibit the same half defect, the patient was never in a condition for prolonged

* Read before the section of Ophthalmology, Philadelphia, College of Physicians, Nov. 10, 1900.

tests until after the fields had become complete. Suggestion was very readily accepted, but all replies concerning the fields of vision were consistent with the above record. Twice during the first examination the head and eyes were suddenly and strongly rotated to the left, but the patient could give no reason for this condition, and in both instances it was terminated by sharp command. The eyes were examined at different times, but no changes could be detected in the

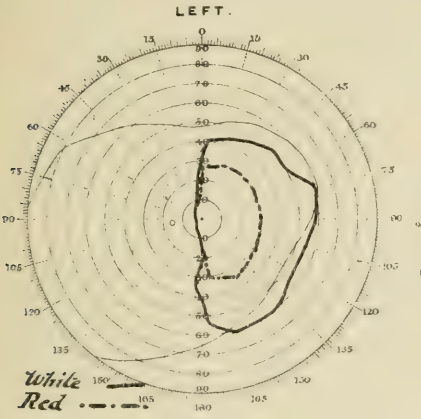


Chart I.

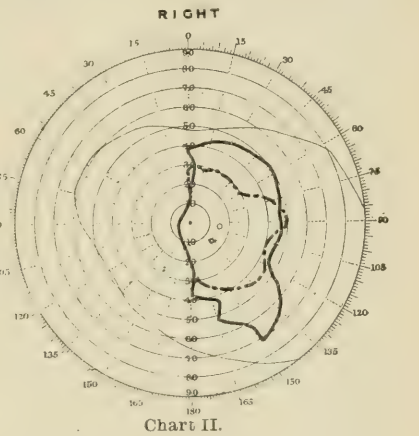


Chart II.

fundus details, and no other defect of function appeared. The optical error was small. Wernickes pupillary reaction was absent. Careful physical examination, made by the hospital staff on admission and subsequently, discovered a firmly fixed retroversion of the uterus without marked tenderness in the ovarian region. During the period of about one week beginning June 16, the patient had various hallucinations concerning her surroundings. These complaints were usually spontaneous and always without evidence of fear or a sense persecution; in fact her manner was most cheerful. Among the curious things described were "a brass band marching and playing inaudible music," "water coming through the cracks in the floor and covering her feet without wetting," "dogs always turning and changing color," "people walking sideways," white dust, electric lights, fire, smoke, etc. Under local uterine and general treatment, with rest, she rapidly recovered. The hallucinations faded first, then all pain, and soon she could use her eyes for all purposes. The defect in her visual fields never reappeared after it was found absent on July 3, and on July 31 she left the hospital quite well. Central vision had never been impaired.

Except in the matters of reversal and moderate contraction, the fields remained normal while she was under observation, and no convulsions or other important symptoms have occurred since. There has been no opportunity for re-examination, but a letter written by the patient sixteen months after leaving the hospital reports good health and an absence of eye symptoms.

The clinical history is incomplete, especially in the matter of local and general anesthesias, but I believe a diagnosis of hysteria is justified by the following facts:

1. The temporary character of the hemianopsia and its association with marked peripheral contraction in the retained fields.

2. The presence of reversal in a marked degree after recovery.

3. The absence of any other symptom of organic disease, and the very definite association of the attacks with delayed and painful menstruation.

4. Disappearance of all symptoms after partial cure of the pelvic condition, with great improvement in general health.

I am under obligation to Dr. I. P. Willits, Neurologist to the hospital, who first recognized the character of the condition and furnished portions of the clinical history. My own early opinion had been distinctly in favor of organic disease.

Dr. D. C. Bryant of Denver has had a serious accident in Berlin. While walking with a friend he was run down by a cab and injured so as to be confined to his bed for some weeks. His friend was killed.

Dr. Robert Kitto, of Racine, Wis., who sustained injuries resulting in the loss of sight in one eye while riding on a street car several months ago, and who experienced trouble in collecting from insurance companies with which he had $50,000 accident insurance, has settled with all, and there will be no litigation. In all Dr. Litto is said to have received $18,000. One company, the Frankfort of Germany, refused to pay and suit was commenced. The company owed $40,000. Today the claim was settled for $3,000. Besides the insurance, Dr. Kitto got $1,000 from the street railway company. At the time of the accident Dr. Kitto was riding on a street car and was thrown against a window, piece of glass penetrating and destroying the eye.

ABSTRACTS

OF RECENT OPHTHALMIC LITERATURE.

BY G. E. DE SCHWEINITZ, M. D., AND C. A. VEASEY, M. D.

Glioma of the Retina.—G. E. de Schweinitz and E. A. Shumway *(Proceedings of the Pathological Society of Philadelphia,* December, 1900), after a description of two gliomas of the retina, conclude with the following review, prepared by Dr. Shumway, of the etiology of such growths:

For many years the scientific world has been divided into two camps—those defending Virchow's views, that glioma develops from the neuroglia or supporting tissue of the retina (among them Hirschberg, Iwanoff, Knapp, etc.); and, on the other hand, those who take the ground that it is a round-cell sarcoma, or plexiform or tubular angiosarcoma (Delafield, Vetsch, Straub, Mazza, Van Duyse, Becker). Virchow's standpoint has recently received strong support from Greef, who, by means of the Golgi-Cajal silver method, was able to show the presence of long protoplasmic processes in connection with the cells, thus demonstrating their neurogliar character. These results were confirmed by Hertel, although he did not succeed when employing the Weigert neuroglia method. Both Greef and Hertel found also numerous ganglion cells, and the former has proposed to call the growth *neuroglioma ganglioma,* following Klebs, who had chosen the name of *neuroglioma,* not only for the retinal tumors, but also for the gliomata of the central nervous system.

Wintersteiner, however, lays special weight upon the epithelial rosets, described by Flexner, Eisenlohr, Becker and Van Duyse, which he found in 11 out of 26 cases of glioma investigated by him. These peculiar structures consist of closed or partly closed rings of ten to twelve narrow, wedge-shaped, cylindric cells, the lumen of the roset being lined by a distinct basement membrane. In places rod-shaped protoplasmic processes extend into the lumen, through the basal membrane. He considers that these cells, with their processes, are rudimentary rod and cone cells, that the basal membrane represents the limitans externa retinæ; and as he found them in a beginning glioma

nodule in the external nuclear layer, where they could not be present normally, he believes that glioma arises from embryonically misplaced cells of the neuro-epithelial layer of the retina. He described these roset formations in two malformed eyes, which were free from tumor formation, and in one case he was able to show a direct transition of the cells to the rod-cone fibers and to the limitans externa retinæ. He further mentions that Salzmann has also described similar rosets in an eye with a conus below the optic nerve entrance, and as clinical observation permits no doubt as to the influence of congenital disturbances upon the production of the tumor, Wintersteiner suggests the name of *neuro-epithelioma* retinae. That the rosets were found in only one-third of his cases was not considered important by him, as it is not necessary that the misplaced cells should, in every case, reach the height of development necessary to produce the fully-formed rosets. He does not deny the presence of glia cells in the growth, but claims that they do not decide the nature of the growth, because such cells are present normally, and the supporting tissue may be increased without, however, constituting the essential element of the tumor.

On the other hand, Ginsberg has described groups of cells in the displaced and partly detached retina in the micro-ophthalmic eye of a newborn child, which showed transition to the cells of the pars ciliaris retinæ. Such rosets have also been found in micro-ophthalmic or otherwise malformed eyes, by Dötsch, Bernheimer, Pilcher, Bock, Rubinski and Helfrich. Ginsberg thinks that Winter-Steiner's claim that the neuro-epithelium is involved in the formation of the roset has not been proven, but that it more closely resembles the cells of the parsciliaris retinæ, as the latter are found before the division of the cells of the future retina into spongioblasts and neuroblasts, he believes that the neuro-epithelium is involved in the formation of the roset has not been proven, but that it more closely resembles the cells of the pars ciliaris retinæ, and as the latter are found before the division of the cells of the future retina into spongioblasts and neuro blasts, he believes that the origin of the growth must be from cells which have remained upon this low stage of embryologic development. In any case the cells composing the tumor are epiblastic in origin, and not mesoblastic, so he suggests the name "carcinoma retinæ" in place of neuroepithelioma retinæ. Pichler's work confirms that of Ginsberg, and his conclusions are identical.

As Axenfeld remarks in his review of the subject in Lubarsch and Ostertag's *Ergebnisse* (1898), from which we have freely quoted, the purely sarcomatous conception of the tumor has certainly lost very much ground. Wintersteiner argues that its origin, in many instances, from the outer nuclear layer, where there are no mesodermal elements, precludes the use of the term sarcoma. Treacher Collins also expresses himself strongly against this term. He shows that in the fourth fetal month the retina is composed of the same cells as those in glioma. That this morphologic proof of the epithelial nature of the growth is further supported by the clinical facts that glioma appears usually before the sixth year, that metastases in the liver are rare, while the propagation in the lymph channels is the usual one; that sarcoma is never bilateral, and that histologically the glioma cells are poorer in protoplasm, show fine protoplasmic processes, and are much more inclined to degenerate.

The discussion upon the subject is evidently not ended, but the newer work points toward the greater probability of the epithelial character of the growth. If the findings of Greef and Hertel be still further confirmed, especially by other methods, its neurogliar origin must be admitted. The silver method, however, is too uncertain in its results, and we must consider this proof as not yet thoroughly established.

Concerning X-Ray Pictures of Intraocular Growths.

Hirschberg *(Centralblatt f. prakt. Augenheilkunde,* November, 1900), states that although the diagnosis of intraocular growths ordinarily is easy by means of the ophthalmoscope, it sometimes becomes difficult, especially when the tumor is covered with widely detached folds of retina or when the media are cloudy. Therefore he suggests the Röntgen rays as a diagnostic means, especially as they have proved of value in determining the presence and positions of tumors of the brain, mediastinum, etc. He made trial of this agency in a case of intraocular growth, the media being clear, so that the ophthalmoscopic and radioscopic findings could be compared. Ophthalmoscopically the growth stretched from the nerve-head, which it nearly covered, about 8 P upward; it was 6 P in diameter and had an elevation of 4-5 mm. A skiagram by Professor Grunmach readily demonstrated the growth. The eye-ball was enucleated, and a small-celled pigmented sarcoma

of the choroid was found in the position shown by the ophthalmoscope and the radiograph.

The Surgical Treatment of Astigmatism.

J. L. Borsch *(Le traitment chirurgical de l'astigmie,* Paris, 1900), after a review and analysis of the clinical and experimental evidence bearing on this subject, comes to the following conclusions: Corneal astigmatism can be cured by a surgical operation by incising the cornea with a Graefe knife without opening the anterior chamber; or by making an incision and opening the chamber; or by producing a wound of two-thirds of the depth of the cornea with the galvano-cautery after the method of Lans.

For cases of astigmatism of less than 3 D. an incision with the knife suffices; for cases of astigmatism greater than 3 D., the deep wound, made with the galvano-cautery, parallel to the limbus and to each extremity of one meridian, as recommended by Lans, seems preferable.

In hypermetropic astigmatism the operation ought to be made in the meridian of greatest refraction in order to transform a hypermetropic astigmatism into a simple hypermetropia, and in myopic astigmatism in the same meridian in order to attempt to neutralize the astigmatism and produce emmetropia.

In the extraction of cataract the corneal incision ought to be made with a view to curing any existing astigmatism. The more the incision approaches the center of the cornea, the greater the effect produced.

Rigorous asepsis should be practiced, and eserine or pilocarpin solution instilled after the operation; during convalescence the operated eyes should be kept absolutely quiet.

The Treatment of the Eye Before and After the Operation of Cataract.

Schiötz *(Archiv d'Ophthalmologie,* October, 1900), in a paper read before the Thirteenth International Medical Congress in Paris, advocated as a preparation of cataract patients epilation of the cilia, irrigation of the conjunctival sac with sterilized salt solution, and a test bandaging of the eyes for twenty-four hours prior to operation. He further believes in the suppression of post-operative bandaging. In one hundred eyes treated with a bandage after operation there was one primary infection and five secondary infections, and among these two eyes were lost by panophthalmitis. Four other eyes were lost by

pupillary occlusion, by iridocyclitis, by loss of vitreous and by glaucoma. Among fifty eyes operated on for cataract and treated without bandage only three were lost.

[It does not seem that these statistics warrant the treatment recommended by the author. Except perhaps in certain cases of blepharitis, epilation of the cilia seems to be a totally unnecessary procedeure. —G. E. de S.]

Glaucoma After the Use of Cocain.

Hinschelwood (*The Ophthalmic Review,* November, 1900,) reports a case of acute glaucoma which followed the instillation of a cocain solution into the eyes of a woman aged 50, who was highly neurotic and who had six dioptres of hypermetropia. Only a few drops of a 2 per cent. solution were employed, but early on the morning after the instillation the patient was seized with all the symptoms of acute glaucoma, and when examined presented the typical appearances of this disease. Under the free use of eserine, with chloral and bromide of potassium internally, the pain abated and the tension became less. On the third day iridectomy was performed, with rapid and permanent relief of all the symptoms. Normal visual acuity was not secured. The author thinks that this case strongly indicates that cocain should never be employed in any eye where there is the slightest suspicion of glaucoma, and certainly should never be employed in the treatment of that disease. He believes, however, that if an anesthetic is required, holocain in conjunction with eserine may be used. His practice is not to combine the eserine and the holocain, but to instill the holocain first and follow it in a few minutes with the eserine.

Subconjunctival Holocain Injections.

Eduard Zirm (*Wochenschr. f. Therapie und Hygiene des Auges,* Nr. 7, November, 1900, p. 57), following the recommendation of Hirschberg, uses holocain mixed with cocain (holocain, cocain aa 0.1 : 10) as a local ocular anesthetic because he obtains a much more active anesthesia with the mixture than with either of its components alone. In very much inflamed and particularly acute glaucomatous eyes, instead of a mere instillation, he makes a subconjunctival injection of this mixture, one and at most two drops being injected immediately before the operation in the neighborhood of the limbus. The

slight oedema which the injection produces passes away in a few moments. The anesthesia is so complete that an iridectomy can be made without pain. In very bad cases twenty minutes prior to the operation he gives a hypodermic injection of morphine. By this procedure general anesthesia becomes unnecessary. Toxic symptoms have not appeared.

Dr. Dudley S. Reynolds of Louisville, Ky., was in Chicago to attend the Fenger banquet. We regretted to see that he was quite lame, but sincerely hope that he may soon find himself in his usual good health. The Doctor brought suit against the Louisville & Nashville railroad for $10,000 damages, and his many friends sincerely hope that he will have no difficulty in winning his suit.

The Congress of Scandinavian Ophthalmologists, which has been organized on the model of the Ophthalmological Congress annually held at Heidelberg, recently held its first meeting at Stockholm. The meetings are to be held every two years. The next will be held at Copenhagen in 1902.

Through an infirmity incident to advancing years the Prince of Wales has been given an opportunity again to shock society with an innovation in his personal adornment. The royal pleasure now beams through eyeglasses. Heretofore the prince's rotund countenance has been bare of ornamentation except what was furnished, at least, before threads of silver began to appear, by a luxuriant beard. His royal highness has always enjoyed good eyesight, but now, on the advice of an eminent oculist, he has begun to wear spectacles. They are framed in tortoise shell, contain a fine pair of lenses, and make a startling change in the appearance of the heir apparent.

The death of Mr. Bowater Vernon, Ophthalmic Surgeon to St. Bartholomew's Hospital, London, is announced. He had been ill for a long time, and died on the 28th of January.

REVIEW.

CONJUNCTIVITIS PETRIFICANS BY PROF. TH. LEBER.

A REVIEW BY DR. C. S. G. NAGEL,

DENVER, COLO.

Albrecht von Graefe's Archiv fur Ophthalmologie opens its 51st volume with an account of exhaustive researches on conjunctivitis petrificans by Prof. Leber. Under that name Leber in 1895 first described an affection which, after a rather short duration and relatively slight inflammatory symptoms, leads to the deposition of a rigid chalky substance in the tissue of the conjunctiva.

Differing from ordinary calcification we meet here a process not affecting parts of the body already altered or dead, but with a rather acute affection of the conjunctiva previously normal. Clinically, though, the process may partake of a chronic character as first one part of the conjunctiva then another, or now one eye and then the other becomes affected. There are also fresh attacks after temporary subsidence; though at its primary seat the process may come to a standstill rather quickly and leave relatively slight changes. In some cases the attacks are more protracted and of such frequent and rapid recurrence that an obdurate state of inflammation is established for months and years. According to the degree and the duration of the preceding affection, the healing takes place, either with the restitution of the perfectly normal state or ending in shrinking, though the latter was not very extensive in Leber's cases. There is this further difference from ordinary calcification, that calcium occurs not simply as a carbonate and phosphate, but as an organic crystallizing compound.

Leber gives an account of all cases in literature that possibly might be cases of this affection, but comes to the conclusion that from the absence of sufficiently accurate data it is impossible to state definitely whether the disease had ever been observed previously. It was only after having completed his account of these researches that he read the article of E. Reiff (Graefe's Archiv. vol. 50) on a case of conjunctivitis petrificans in which the examination had shown the same organic crystallizing compound of lime.

Leber gives the detailed history of his first case, after which follows the anatomical examination of fresh material, and the exhaustive chemical analysis of the substance to which the petrification is due. It is impossible here to follow minutely this thorough and exact investigation; suffice it to state that contrary to cases of true calcification solubility of this substance in alkalies as well as in mineral acids was established; and that, with carbonate and phosphate of calcium, the presence of an organic calcium compound was made at least very probable—as against a possible non-calcareous organic structure distributed through inorganic matter. Not quite so conclusive are the results regarding the isolated groups of crystals found microscopically throughout the petrified portions—although the striking quality of solubility in alkalies as well as in mineral acids belongs to these also.

We regret to be compelled here to do less justice even to the *microscopical examination* of the hardened material, the author giving as well a series of highly interesting, *novel, general observations on hyaline thrombi, amyloid degeneration, fibrinous-infiltration of connective tissue, eosinophile cells,* and *a peculiar kind of amyloid corpuscles of the conjunctiva.* The most generally striking feature in the microscopical specimens was an upper, rigidly infiltrated, petrified stratum and a lower layer non-petrified, but more or less infiltrated with cells. Their line of demarkation was remarkably distinct, running parallel to the surface right across the tissue fibers. In the upper part of the lower layer, "of one of demarkation," we find numerous groups of the crystals already referred to as occurring also in the tissues freshly examined (they are not artefacts). After extracting the inorganic matter with acids the *structure of the upper layer,* before apparently quite homogeneous, became more distinct, reacting promptly to the various methods of staining. The impression one gathers is that the tissue consists of strong connective tissue fibers, closely packed together, and crossing one another in many ways, gradually coming still closer together in the direction upwards until all interstices have disappeared, and the fibers have become transformed into masses like flakes of ice, and finally into a quite compact uppermost layer on the surface of the conjunctiva. Throughout the whole thickness of this area, becoming less and less numerous toward the surface, migratory cells are distributed.

Most remarkable are the changes in the *blood-vessels* in the lower part of the petrified layer and the neighboring portions of the deeper

stratum. As a rule, no vessels are visible in the compact mass on the surface. The lumen of these vessels is filled with a *shining hyaline substance,* the appearance and staining-reactions of which correspond absolutely with those of the petrified substance, with which staining gave results somewhat similar to amyloid material, but being of a less lasting character. Whilst the hyaline thrombi fill many of the vessels completely, one finds sometimes partly altered red blood corpuscles enclosed within the thrombi. The *coats of the vessels* present generally no striking alterations. In some places there was proliferation of endothelium, or it projected into the lumen, or had become completely detached. Some portions of the walls of the vessels were infiltrated with a substance similar to that filling the lumen. In the non-petrified layer the abundance of eosonophile cells must be noted.

The *bacteriological examination* had a negative result*—which "of course, by no means excludes the microbic origin of the disease." Such an origin is probable from clinical observations pointing to an infection of the conjunctiva by contact, and the result of the anatomical examination is easiest explained by an ectogenous invasion of microbes.

On the whole the results point to the effect of a chemical poison of microbic origin, originating on the surface. From there the inflammatory process proceeds downwards, resulting in extensive alterations of the walls and contents of the smaller blood vessels, and ending finally with necrosis and the deposition of certain calcium compounds. Necrosis does not occur primarily, but is preceded by a stage of proliferation of tissue, which has reached to a considerable degree when necrosis sets in. This difference from the ordinary course of microbic infection may be due to a very gradual production of the noxious substance, leading to necrosis only after its sufficient concentration; or the essential cause of the disease may produce only inflammatory changes and proliferation of tissue, and the necrosis may be solely due to the circulatory derangements. The distinct line of demarkation between the petrified and the non-petrified layers probably indicates how far the liquid has penetrated downwards. This explanation is the more probable because albuminous bodies are not readily diffusible.

At this stage there is already a largely increased amount of lime in the tissues. Normally the tissues contain very little calcium. The source for the deposit cannot be in the region of beginning necrosis,

* It should be borne in mind for the whole series of Leber's investigations how very limited the material at his disposal.

but must be looked for in the normal surroundings whence it gets to the zone of deposit by diffusion; through its being deposited there the continuance of diffusion is maintained, and, in spite of the small amount of calcium contained in the liquid, it will accumulate in the necrotic area.

What are the circumstances in that locality causing the deposition of calcium? Most probably it is the ceasing of the tissue-respiration, whereby the generation of carbonic acid ceases, it being the latter, in excess, which in the alkaline fluids of the tissues keeps carbonate and phosphate of calcium in solution. Furthermore, from the superficial position of the conjunctiva, the carbonic acid still in the tissues can the easier make its escape; and by aqueous evaporation, the concentration of the solution being constantly on the increase, the point when calcium no longer will be kept in solution will be reached sooner. Finally there must be an increased supply of lime-containing fluid in consequence of the hyperaemia of the neighboring vessels. All these points, however, are not sufficient to explain the sharp limit of the petrification. From its peculiar way of staining one rather gets the impression that at the zone of demarkation two chemical substances coming from different directions were reacting on one another. Therefore we could suppose that the inorganic calcium-compounds from the blood, having arrived at this zone form a compound with an organic substance contained in the inflammatory transudate of the upper area. This compound would be so abundant in the zone of demarkation as to appear in regular crystals, the rest spreading upwards through the tissues to be deposited partly as crystals but to a larger extent as an amorphous deposit.

The eosinophile cells outside of the blood vessels appear to be aiding in the resorption of the necrosed and petrified tissue. But we must omit further extracts from this interesting study in pathology.

Clinical aspects.—In a portion of the conjunctiva, reddened and swollen by inflammation, there appear white, opaque spots, but little elevated above the surface, and consisting of the altered tissue of the mucous membrane itself. At first they are small and roundish or irregular, in vivid contrast by their chalk white coloring with their diffusely reddened surroundings. They extend gradually on the surface and downwards. In the beginning the lower part of the bulbar conjunctiva and the adjoining parts of the fold of transition are most frequently affected. However, the disease also attacks different places in quite

an irregular way, either simultaneously or in succession, so that beside more extensive foci there may be small spots in the same part or in totally different places of the same or the other eye. Commonly only one eye is affected in the beginning, sometimes the second will remain intact permanently; or will become affected later, without there being a fresh attack on the first eye. In some cases fresh small spots make their appearance just in such parts of the conjunctiva lying opposite to a bigger focus, that one is forced to think of infection by contact. The adjoining part of the edge of the lid becomes affected sometimes. The spots simply lie in the more hyperaemic parts of the conjunctiva without any specially marked marginal zone.

The signs of inflammation are as a rule rather slight compared to the gravity of the affection, and the subjective symptoms are ordinarily not severe. The parts of the conjunctiva not directly affected are mostly but little injected—though at the height of the disease there may be temporarily considerable catarrh of the rest of the conjunctiva with discharge.

The smaller spots often disappear very quickly and without leaving any traces at all, even whilst the bigger ones go on developing. In the latter the disease spreads on the surface as well as downwards. After the loss of the epithelium one finds an ulcerating surface of irregular shape, the margin of which is surrounded by epithelium in course of desquamation. The diseased area presents a surface, covered with some mucous, of chalky whiteness, firm, sometimes even hard as stone and dry. By loss of parts of the altered tissues this surface may become more or less uneven. Sometimes its consistence is so firm that it is only with great difficulty that one can get anything off the mass unless by use of forceps and scissors. In the beginning it adheres very closely to its base, but it is thrown off in course of time in small shreds or large continuous pieces. Not always is the stage of complete petrification reached. In some cases the deposition of calcium does not increase beyond a rather small amount —being recognizable only by a white coloring of the necrotic tissue, its dryness and greater consistence. The surface of the ulcer produces but little or no secretion. It is never covered by a fibrinous film, but by muco-purulent secretion from the other parts of the conjunctiva. In the beginning of the disease one is struck by the similarity of its appearance to the effects of a caustic, more particularly of lead-solutions.

On the whole, there is no great tendency for the cornea to become affected. Usually it is only after some time that slight defects of its epithelium and small ulcers appear, with some vascularisation in the marginal parts of the cornea, all ending favorably. (Leber's second case with deleterious inflammation of both corneae was an exceptional one.)

In strong contrast to the gravity of the disease is the possible early and fairly complete recovery of the conjunctiva, to the extent of an absolute disappearance of all visible changes. The parts less affected will heal completely by resorption or elimination of the diseased tissues. It is only at the parts more severely affected, where gradually larger portions of tissue are thrown off, that a thickening and shrinking of the conjunctiva will take place—which may be surprisingly insignificant. In the worst case there was a partial symblepharon. Trichiasis has not been observed so far. There remains for a long time a tendency to relapses, which, however, gradually become slighter and of less frequency. So that even in bad and obstinate cases complete recovery may take place. In other cases the disease is protracted by continuous relapses and results in blindness through severe corneal complications.

Treatment, unfortunately, was of but little effect. Antiseptics seemed to be of service only temporarily. Moist warm dressings were useful in removing necrotic material, as was sometimes its mechanical removal. Especially, however, by excision of the whole diseased parts, wherever this was practicable, could the length of the attack be shortened and relapses rendered milder. Moreover, this procedure was not followed by extensive shortening of the fold of transition. The various internal remedies availed nothing.

Etiology.—Though probably parasitic the danger of infection cannot be great, for friends of cases were never affected. It seems that the contagion exhausts itself quickly and is renewed periodically. As to the possible nature of the process clinical observation aids but little. Tuberculosis can be excluded. The possibility of a connection with herpes iris (*Fuchs, Neumann*) must be borne in mind, though Leber was unable to establish it.

"Why here on a membrane situated on the surface, after necrosis has set in, there should not be, as usual, ulceration through desquamation at once, why the leucocyses should not eliminate earlier the substance interfered with in its nutrition ere calcium could be deposited

there—these and similar questions it will be possible, we think, to answer only then, when the cause of the disease will have been discovered, and it thus will have become possible to make investigations concerning its mode of acting."

A number of doubtful cases of conjunctivitis petrificans concluded the paper. It is instructively illustrated by four lithographic double-plates, mostly in colors, giving a great number of microscopic reproductions.

The annual meeting of Mt. Sinai Hospital Alumni Association was held in New York city, Feb. 20, at the Arena. Dr. Charles H. May, the president, acted as toastmaster, and Dr. E. Greening was one of the gentlemen responding to toasts.

Deaf, Dumb and Blind.—The annual reports on the Ontario, Can., institutions for the education of deaf and dumb at Belleville, and of the blind at Brantford, have just been published. At the Belleville institution, 152 males and 130 females have been in attendance through the year, which ended Sept. 30, 1900. Since its establishment, thirty years ago, 1,187 children have been treated there. At the institute for the blind, at Brantford, 61 males and 52 females were in attendance last year, this being slightly less than the previous year. It is considered that the blind are decreasing in this province.

A "Jacob Memorial Fund" has been started. The committee includes the presidents of both the Irish colleges in London, and all the leading physicians and surgeons in Dublin. Dr. Jacob, whose death I have previously mentioned, left but a slender provision for his widow and daughters, and the fund will be for them. Jacob was an earnest reformer, and medical reform does not pay. It hindered him in practice, absorbing too much attention. The Irish profession owes him an enormous debt of gratitude for his efforts and achievements. If he had stuck closely to his practice and avoided public work he would have made a large fortune, for as an ophthalmologist few could equal him.

REPORTS OF SOCIETIES.

THE SOCIETY OF OPHTPALMOLOGISTS AND OTOLOGISTS WASHINGTON, D. C.

DR. E. OLIVER BELT, PRESIDENT.

October 19, 1900.—Dr. Belt read a paper on *Pulsating Exophthalmos*. After a brief statement of the symptoms and pathology of pulsating exophthalmos, he related a case which came under his care on Nov. 8, 1898. The patient was a woman about forty years of age. When first seen the left eye was protruding prominently, the lids and conjunctiva were very oedematous, and a sanguineous discharge exuded from the latter. A loud pulsating or blowing noise was audible over the left side of the head, and especially over the left ear. On the day previous the patient had had an attack of coughing, which was followed at once by violent pain about the left eye; twenty minutes later a pulsating noise was heard on the left side of the head. Swelling of the lids and protrusion followed in one and a half hours. Ice compresses, potassium bromid, and ergot were used. On the following day the symptoms were more pronounced, and the chemosis was so great that scarification was required. Oedema extended to the entire left side of the face, neck, and back of the ear, involving also, to some extent, the right brow and lids.

Nov. 15—The patient was taken to the Episcopal Eye, Ear and Throat Hospital. On the 17th the cornea began to ulcerate, the process finally terminating in perforation. On Dec. 3 periodic pressure over the carotid was undertaken, after which the exophthalmos and chemosis were greatly diminished. Facial erysipelas developed on Dec. 15, recovery from this occurring in about a week. On April 20 the exophthalmos had subsided, though the bruit continued. On Sept. 13, 1899, the bruit was still present, but less noticeable; the eyeball was shrunken and the lids were closed. On Jan. 20, 1900, an artificial eye was inserted over the atrophied stump; the eye has since been worn with comfort.

At the completion of the paper the patient was introduced and

the members were given an opportunity of examining the stump and listening to the bruit. Dr. Belt showed the latter could be completely stopped by strong pressure on the carotid artery.

In the discussion which followed, Dr. Newell stated that according to Bull and Harlan erysipelas occurred in about 20 per cent of cases of pulsating exophthalmos.

* * *

Nov. 16, 1900.—Dr. Wm. H. Fox read a paper on *Glaucoma.* In connection with his paper Dr. Fox related a case which had recently been under his care—that of a colored man, fifty-five years of age, totally blind from glaucoma in one eye and having only light perception in the other. There was no pain or congestion, the pupils were dilated, and T+3 in the worse, and T+2 in the better eye.

The question of operating at so late a stage was difficult to decide. Having first done a paracentesis of the better eye with some improvement of sight, he decided to do an iridectomy. This resulted in considerable improvement, the patient being able to see large objects.

Dr. Fox spoke also of other methods of treatment, mentioning two methods which have recently attracted some attention: exsection of the upper cervical ganglion, and galvanization of the cervical sympathetic. He did not think either of these methods likely to displace iridectomy.

In the discussion Dr. Wilmer spoke especially of a class of cases in which iridectomy was harmful, i. e., when tension was only slightly elevated and the anterior chamber deep.

* * *

Jan. 18, 1901.—In a paper by Dr. Wm. S. Newell, on *Some Ocular Manifestations of Urethral Irritation,* the writer first related a case in which dilatation of the urethra by sounds was followed by attacks of iritis. The patient had had gonorrhœa some months previously. Gonococci were found in the urethral discharge during the second attack of iritis, but they could not be found subsequently. After each dilatation a renewed attack of iritis was induced; these attacks diminished in intensity with each passage of the sound, and finally they ceased to appear. The iritis was assigned by Dr. Newell to bacterial infection.

The remainder of the paper was devoted to the consideration of several cases in which certain eye symptoms, as asthenopia and photo-

phobia, seemed to be due to reflex irritation from excessive sexual intercourse or from masturbation.

The discussion was by Drs. Belt, Burnett, Butler, and Wilmer, all of whom agreed as to the probability of such reflex irritation, but thought it extremely difficult to establish this connection in individual cases.

DENVER OPHTHALMOLOGICAL SOCIETY.

December 15, 1900.

DR. MELVILLE BLACK IN THE CHAIR.

Dr. W. C. Bane exhibited a man aged thirty-two years who, one week before, had been struck in the left eye by a piece of steel from a hammer. There was a linear wound of the sclera and cornea with prolapse of the iris into the corneal wound. The anterior chamber was filled with blood, preventing a view of the fundus. An examination with the sideroscope had been made in order to determine whether the piece of steel had penetrated the globe. This examination was negative. The prolapsed iris was excised, atropin instilled and a bandage applied. The patient was making a satisfactory recovery.

Dr. Melville Black, in showing a case in which the two upper cervical ganglia had been removed for glaucoma, said:

"You will all recognize this case as the one shown at our last meeting who had subacute glaucoma of his left eye, and upon whom it was concluded to remove the left superior cervical ganglion of the sympathetic. This operation was performed by Dr. Clayton Parkhill, at St. Luke's Hospital, on the morning of Dec. 24, at 8 o'clock. No eserine was used for thirty-six hours previous to the operation. Just before going on the operating table the tension of his right eye was found to be normal and the tension of the left eye +2 with dilated, fixed pupil and steamy cornea. The vision of O. S. was fingers at 12 feet. The prominence of the eyeballs, as measured by Dr. Jackson's instrument while the patient was on the operating table under the anesthetic, was O.D. 17½ m.m. O.S. 18 m.m. Owing to the intimate connection between the superior and middle cervical ganglia it was deemed advisable to remove both of them to insure as complete cutting off of their connection with the eye as possible. Before the ganglia were excised the pulse was 72; immediately after their excision it was 60. While the wound was being dressed the tension was found

to be perceptibly lowered, the pupil contracted and the cornea less steamy. I saw him on the evening of the day of the operation, and except for the nausea incident to the anesthetic he was perfectly comfortable. As near as could be determined the tension was but little increased, the pupil 1½ m.m. in size and the cornea was clear. He was sure that his vision was very much better than before he went on the operating table.

"Second day—Temperature has ranged between 98 and 98¾ pulse 68 to 72, and respiration 18 to 20. The tension of O.S. is certainly normal, pupil 1½ m.m., cornea perfectly clear. He tells me that as he looks about the ward with his left eye he finds the vision as good as that of the right. He has had no pain over the left side of face or head nor in the eye since the operation.

"Third day—Has no pain. Counts my fingers at a distance of 30 feet; from lack of space could not get further away from him. The objective conditions of the eye remain the same. His pulse has been running from 90 to 102. Tempt. normal.

"Fourth day—Clinical picture unchanged. O.D.V. $\frac{6}{6}$ O.S.V. $\frac{6}{6}$.

"Tenth day—Wound dressed and found to have healed by first intention.

"Twelfth day—Dismissed from hospital. Reports at my office. I find the condition as follows: O.D.V. $\frac{5}{5}$ no glass improves. O.S.V. $\frac{5}{6}$: $\frac{5}{5}$ W. —.50 S. Ophthalmoscope reveals nothing special in the retina of O.S. The nerve of O.D. has no physiological cup, while the left has a very marked cup which looks like a physiological cup. The tension is normal in each eye. The ocular conjunctiva of O.S. is decidedly congested. The upper lid of O.S. droops slightly. The pupil is about 2 m.m. in a well lighted room, and dilates very slightly in my dark room. There is a distinct contraction of the pupil during accommodation. Cocain does not influence the size of the pupil, the size of the palpebral aperture, nor the vascularity. It is to be observed that the left eye is slightly myopic, which I believe to be accommodative. It is also to be observed that the accommodation of the left is greater than that of the right. If Dr. Jackson has brought along his instrument for measuring the prominence of the eyeballs, we will dtermine ir there is any enophthalmus.

"Nineteenth day—The only change observable in the eye is that the pupil is now about ½ m.m. in size."

Dr. Black also presented the following case: H. A. F., age twenty-

six: "You will remember this man as the patient who has been shown twice before the society, first two months ago, and again at our last meeting, with a piece of steel plainly visible in his lens. I believe we all agreed at the last meeting that the very small amount of lens opacity present at his first appearance had not increased, and that for the lens to remain comparatively clear for so long a time after so severe an injury was quite remarkable. He came to my office four days after our last meeting, when I found the lens had become very markedly opaque, the opacity being general throughout the lens. His vision had dropped to $\frac{1}{40}$. A view of his fundus could not be obtained. His condition tonight has not materially changed since."

Dr. D. H. Coover reported the following case in which the right upper sympathetic cervical ganglion was removed for the relief of glaucoma simplex. John L., aged sixty-five years. Consulted me March 15, 1900, with the following history: For the past year his vision had been failing very rapidly until at this time his vision was reduced in right eye to light perception in the extreme nasal side of retina (temporal field), tension +3, optic nerve cupped, pupils slightly dilated and fixed, arterial pulsation, retinal vessels contracted. Left eye, vision $\frac{20}{200}$ tension —2, nerve cupped, pupil slightly dilated, field contracted. He never complained of pain or inflammation in either eye. Myotics were tried, but had no effect upon the vision. I suggested the operation of Sympathectomy to him, but before he consented I called in Dr. Melville Black; he agreed that it was a case of Glaucoma Simplex and would be a good case for the operation. I explained to my patient the operation and its possibilities. Dr. Leonard Freeman, of this city, removed the right upper cervical sympathetic ganglion. The operation was rather difficult, as the patient, a blacksmith, has a very short, thick neck, the muscles being very large, and the veins numerous and dilated almost to a condition of varicosity. The nerve was reached by dissecting down behind the sterio-mastoid muscle and turning up the sheath of the great vessels.

Results of the Operation.—It was performed at 5 p. m. on the 31st day of March, 1900. Immediately after the operation tension was lowered in both eyes. The following morning: Right pupil slightly contracted, slight lachrimation, which was noticeable during the day. Tension x1 and more light perception in the eye.

Second day—Tension +1, pupil slightly contracted and slight reac-

tion. No pulsation of retinal arteries, vessels fuller, no lachrimation, counted fingers at three feet.

Third day—Tension +1, counted fingers at five feet, field of vision increased.

Fourth day—Tension +1, field of vision increased to median line, pupils reacted slightly.

Fifth day—Tension +1, vision $\frac{3}{200}$.

Sixth day—Tension +1, vision $\frac{5}{200}$.

Seventh day—Tension +1, vision $\frac{7}{200}$ and could catch a letter on the 70-foot line. Field of vision increased a little beyond the median line of temperal side.

Ninth day—Tension +1, vision $\frac{9}{200}$ more light perception in temperal side of retina (nasal field).

Twelfth day—Tension +1, vision not so good, slight cloudiness of aqueas, vision $\frac{5}{200}$. Complained of lobe of right ear and face along the jaw being numb.

Fourteenth day—Tension +1, the aqueous cleared, vision $\frac{10}{200}$.

Eighteenth day—Tension +1, pupil reacted slightly, vision $\frac{10}{200}$.

On the nineteenth day returned to his home. At intervals of a few weeks I would hear from him, in which he stated that his vision was getting better and that his range of vision was larger. In the latter part of July I received a letter stating that his vision was very poor and failing rapidly. He supposed it was due to a cold that he had contracted.

On the second of August I went to see him. On examination I found tension +3, vision reduced to light perception and field of vision contracted to where it was at the date of operation, pupil dilated and fixed. No congestion or pain. The vision in the left eye was reduced from $\frac{20}{200}$ to $\frac{5}{200}$, and the field of vision very much contracted.

The immediate results of the operation were very encouraging and were as follows:

First, that tension was lowered to almost normal. Second, contraction of the pupil and slight reaction. Third, increase of the visual field and visual acuteness, and that the temporal field or nasal side of the retina improved, while the nasal field or temporal side of retina did not improve. These conditions remained until the attack of supposed "cold in the eyes," which proved to be nothing more than the return of the former disease, glaucoma.

Jonnesco, in September, 1897, was the first to perform this operation

for the relief of glaucoma, and from the cases that he has operated upon, he concludes that the best results are to be expected in those cases where iridectomy has failed to arrest the disease, and in all cases of glaucoma except in the acute inflammatory and hemorrhagic form.

Dr. James M. Ball, of St. Louis, concludes from the cases that he has operated upon that the operation is more valuable in glaucoma simplex than any other form.

My conclusions from this case are, that the operation is of no service in glaucoma simplex where vision has been reduced to zero, as the final outcome of this case has demonstrated, but may be of service in arresting the disease in the earlier stages and retain vision before atrophic changes have taken place in the nerve, retina and choroid.

After myotics and iridectomies have failed to relieve the disease it is then when we are justified to advise sympathectomy in hope of relief from permanent blindness; even then we have no assurance that the glaucomatous attack will not return months afterward and destroy what has been gained. The operation in skillful hands is not a dangerous one, nor has there been any deleterious effects upon the patient, except the numbness of the lobe of right ear and along the inferior maxillary.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, January 31, 1901.

G. ANDERSON CRITCHETT, M.A. F.R.C.S.E., PRESIDENT, IN THE CHAIR.

Paresis of Divergence.—Dr. G. A. Berry read a paper on so-called paresis of divergence. He cited cases and showed diagrams in support of his theory that the cause was really overaction of convergence rather than paresis of divergence. In cases when there was doubt whether strabismus fixus was present or not, the diagnosis was much facilitated by taking hold of the eye with a pair of fixation forceps and forcibly rotating the globe outwards. If this could be done it was clearly not a case of strabismus fixus, while if it were impossible, then it proved that it was a true case. He also read notes on some rare forms of non-paretic, non-concomitant squint in which, through faulty innervation, muscles not usually associated worked together, such as the internal rectus of one eye with the superior rectus of the other.

Eclipse Blindness.—Dr. Rayner D. Batten reported a case of eclipse

blindness with thrombosis of a retinal artery and hemorrhage into the vitreous.

The patient was a woman, aged twenty-eight, who watched the solar eclipse on May 28, 1900, without any protection than that offered by screwing up the eyes and looking between her fingers held close together. Immediately afterward she noticed that things looked black, and that the next morning she found she could only see "portions of things." She was first seen on June 6, and was found to have lost the lower half of the field of vision in the left eye. The vision was $\frac{6}{18}$. Above the optic disc a white patch was seen, possibly an absorbing hemorrhage, while the hazy and œdematous retina obscured the view of the disc and retinal vessels. The œdema increased until June 20 and then rapidly cleared, ultimately leaving a patch of choroido-retinitis above the disc. One of the upper retinal arteries was occluded and the others reduced in size. The vitreous opacities cleared and the macula was unaffected. The vision improved to $\frac{6}{12}$ in the injured eye. In the right it was $\frac{6}{6}$. The patient was in good health, and no other cause could be found for the injury except exposure to direct sunlight.

Mr. J. B. Lawford had observed three cases of eclipse blindness, but there were no ophthalmoscopic changes. In all, however, the scotoma had persisted with some deterioration of vision.

Mr. Treacher Collins related two cases. In one the discs became very pale, and there was a central scotoma. In the other the vision improved, but the fields were greatly contracted for white, and those for colors were very much smaller.

Mr. Jessop had published three cases. In all the vision improved, though there was a slight permanent scotoma.

Mr. Bokenham gave details of two cases, in one of which there were retinal hemorrhages. The vision improved from $\frac{6}{60}$ to $\frac{6}{12}$, but there was a marked central scotoma.

Dr. Berry thought the scotomata were usually permanent. The general public was not sufficiently aware that blue glasses were worse than useless when looking at the sun, and at bright lights. It was the blue and violet rays which did all the damage.

Mr. Johnson Taylor, considering the marked way in which Mr. Batten's case differed from eclipse blindness, asked if there was at any time keratitis punctata, as he thought the whole condition might be due to irido-cyclitis.

Dr. Batten, in reply, stated that no keratitis had been seen, and he could find no cause for this condition other than that given.

A Case of Bullet Injury of the Occipital Lobes, with Loss of the Lower Half of Each Visual Field.—The President read this paper: The patient, a captain in the British army, was struck by a bullet (probably Lee-Metford) while turning to address his men on the left. The pain was likened to that caused by a blow from a racquet ball. He lost his sight at once, but did not become unconscious for half an hour. He remained comatose for eight days, and on recovering consciousness was still blind, but a week later was able to distinguish the flash of a lighted match. He was trephined on the day following the injury, he believed at both the point of entry and exit of the bullet. The trephine aperture at the site of entry, marked by a distinct depression, was situated $2\frac{1}{4}$ inches above Reid's base line on the right side in a vertical line above the posterior border of the mastoid process, and $1\frac{1}{2}$ inches below and slightly behind the parietal eminence, 4 inches from the external occipital protuberance. The aperture of exit was half an inch to the left of the middle line, 2 inches above the protuberance and 1 inch below the lambda. When examined the pupils were active directly and consensually, the fundi were normal, and the vision in each eye was $\frac{6}{6}$ and Jaeger 1. The patient had been prevented entering the navy by color blindness. The lower half of each visual field was lost almost completely, the line of limitation being irregular.

This feature was the chief point of interest, as it afforded evidence of interference with the cortical visual centers. The bullet must have traversed the skull horizontally from before backward and from right to left, and brain substance had been recognized at the time of injury. The course of the bullet must have been through the anterior part of the right middle occipital convolution, injuring also the right and left cuneus. The sudden impact probably caused temporary paralysis of the visual centers from concussion. That there was a considerable extravasation of blood was proved by the rapid onset of unconsciousness, and this or the actual injury caused by the bullet may account for the persistent failure of the lower half of the visual fields, though on the latter supposition it is difficult to explain the exact symmetry of the visual loss. In a recent number of the *Lancet* Mr. Page had published a case of injury to the right occipital region attended with homonymous hemianopsia on the left side, complete at first but subsequently

recovering. No optic neuritis could be detected in either of these cases.

Mr. Fisher gave details of two cases of similar character to that cited, the lower half of the fields being lost—altitudinal hemianopsia.

Card Specimens.—The following were shown: Mr. W. H. Jessop, case of tuberculosis of the conjunctiva; Dr. W. A. Stirling, specimen of primary sarcoma of this orbit; Mr. W. Lang, new growth on ocular conjunctiva, probably a papilloma; Mr. J. B. Lawford, concussion injury of the eyeball, with a "hole" at the macula; Mr. W. T. Lister, spreading opacity of the cornea following herpes ophthalmica; Mr. W. H. Jessop, case of probable distension of the frontal sinus in a girl, aged ten years. Other cases in children were mentioned by Messrs. Poulett Wells, Tatham Thompson, Berry, and Little. Mr. W. C. Rockliffe, sections of a conjunctival growth. The nature of this being doubtful, it was proposed to refer it to a committee. C. DEVEREAUX MARSHALL.

SECTION ON OPHTHALMOLOGY.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting Jan. 15, 1901. Dr. George C. Harlan, Chairman, in the Chair.

Dr. John T. Carpenter exhibited a man, aged 26, with a so-called *inflammatory coloboma,* congenital in character, occupying the entire perimacular portion of the fundus of the left eye, about 12 disk-diameters in size. The area is bordered by heavy lace-like masses of pigment, and at its lower outer portion a large retinal artery emerges. Large membranous vitreous opacities, optic nerve atrophic in its outer half, and irregular star-shaped cataract. Myopic in refraction. In the right eye central vision was suddenly lost 5 years ago, probably from a post-hemorrhagic lesion. There were present small lenticular opacities, membranous vitreous opacities, and extensive circumscribed area of choroidal atrophy involving the macula.

Dr. P. N. K. Schwenk exhibited (by invitation) a man, 33 years old, with *exophthalmos the result of osteo-porosis.* Fracture of the right lower jaw in 1883 was soon followed by gradual enlargement of all the bones of the face, more pronounced on the right side. The bony hypertrophy continued until the right eyeball projected beyond plane of orbit, and was only retained by the orbital tissues. The eyeball could

be dislocated at will by patient. Erosion of the cornea occurred from inability to close eyelids, necessitating a median tarsorrhaphy, while the stretching and lateral pressure caused optic atrophy. According to Agnew "the osteo-porosis or rarefaction is an osseous change, the result of inflammation, in which the inorganic elements of the bone are measurably destroyed, the vascular canals becoming larger and larger by the absorption of their partition walls until the entire bone, enlarged in the bulk but diminished in its weight, resembles a sponge."

Discussion.—Dr. W. L. Zuill (upon invitation) presented skulls of some of the lower animals affected with the same disease. It differed from osteo-malacia, which affected the long bones, by being restricted to the maxillary bones, and these are generally symmetrically enlarged. The disease is a rarefying and condensing ostitis, the trabecular spaces becoming hypertrophied and filled with embryonal tissue and deposits of osseous neoplasms, which later exhibit a process of condensing inflammation. Although the disease had not been fully studied, he believed the process to be caused by perverted metabolism, probably affected by dietetic and climatic conditions, but usually the result of an injury, as in the case exhibited.

Drs. S. D. Risley and E. A. Shumway reported a case of *carcinomatous degeneration of a papilloma of the bulbar conjunctiva.* The tumor involved the temporal half of the cornea, and was accompanied by infiltration of the eyelids at the external canthus. In this position the papillomatous type of the tumor had changed, the cells being grouped in the distinct alveoli characteristic of carcinoma. The eyeball was removed, together with the infiltrated portions of the eyelids, and there had been no recurrence 18 months later. This was the second case of carcinomatous degeneration of a conjunctival papilloma to be studied microscopically.

Dr. S. D. Risley gave the clinical history of a *case of inflammatory glaucoma presenting unusual features* in a woman, aged 71 years, of gouty diathesis. The attack followed a group of cases of acute conjunctivitis in the family, and was mistaken and treated by physician for that disease for 10 days, at end of which time T. = + 3, vision reduced to fingers at 1 foot, and field narrowed almost to fixation point. She was detained in the office and repeated instillations of eserine solution made, under which the pain subsided and vision rose to counting fingers at one meter. Before being dismissed she complained of pain in the right eye and dim sight. On examination the anterior perforat-

ing vessels were found dilated, anterior chamber shallow, T. = + 2, and pulsation in the retinal arteries which had before been absent, V = $\frac{1}{10}$. Under eserine and salicylates, T. normal in both eyes next morning, and in O. D. V. = $\frac{6}{6}$, with normal field, and in O. S.=6 + with temporal field contracted to fixation point and elsewhere to 10 degrees. Following attack of indigestion, symptoms returned in O. S. and iridectomy was performed. Two weeks later she suffered an onset of glaucoma in O. D., notwithstanding that eserine had been instilled regularly during residence in hospital. Iridectomy resulted in great improvement in sight in 24 hours, but dimness supervened in 48 hours from extensive hemorrhage which spread over anterior and posterior surfaces of lens. Dr. Risley said that but for the accident of having witnessed the attack of acute transient glaucoma in the right eye prior to the operation upon the left this case would have furnished an illustration of the tradition that iridectomy upon a glaucomatous eye was likely to precipitate an attack of the disease in the previously healthy fellow-eye.

Discussion.—Dr. de Schweinitz referred to an analogous instance occurring in a woman, aged 65, on whom he had performed iridectomy on the right eye for inflammatory glaucoma. From his experience he believed that where acute inflammatory glaucoma attacked one eye, the other eye was almost certain sooner or later to be similarly affected, and he strongly advised that an iridectomy be performed on the good eye before an outbreak of the disease had complicated the operation and damaged the eye, especially if at any time, either before or after the iridectomy on the opposite eye, the apparently sound eye had exhibited any of the prodromal signs of glaucoma. In reply to a question by Dr. Harlan, he said that he knew there were cases in which the disease had not shown itself in the good eye even many years after the primary attack in the other eye, but nevertheless he considered that an iridectomy not only relieved the patient of the constant anxiety, but gave the most certain hope of checking the disease. He had been informed by Dr. Borsch, formerly on de Wecker's staff, that that surgeon performed an anterior sclerotomy upon the healthy eye at the time the iridectomy was made upon the glaucomatous ball. In cases of iridectomy in glaucoma de Wecker preferred at first making a sclerotomy, and several weeks later the iridectomy. Dr. Risley said that he was quite in accord with Dr. de Schweinitz regarding the advisability of iridectomy on the fellow-eye as a prophylactic measure, since in a

vast majority of cases the second eye was also sooner or latter attacked by the disease. Iridectomy, he thought, would remove a source of anxiety from both patient and surgeon. During an acute glaucoma the shallow anterior chamber made successful peripheral iridectomy a very difficult operation, and the profuse bleeding from the cut iris often made it necessary to close the eye with the anterior chamber filled with blood, which he believed often led to partial capsular opacity and prolonged convalescence; whereas, in a healthy eye, the operation was comparatively an easy one and fraught with much less danger from complications. Dr. Zentmayer referred to a case of subacute glaucoma in a patient, 68 years of age, where, 24 hours after an iridectomy, the sight of the fellow-eye, the optic nerve of which presented a doubtful pathological excavation, rapidly failed, declining from $\frac{5}{6}$ to L. P., with T. + 2.

Drs. M. W. Zimmerman and B. K. Chance gave the history and pathological report of a case of *glioma of the retina* in a healthy girl, 4 years old, in whom there had been no return during the past 5 years. The tumor occupied more than one-half of the vitreous chamber, but the sclera was not involved and the infiltration had penetrated the optic nerve to only a slight degree. Histologically it presented the characteristics of glioma.

Dr. G. E. de Schweinitz described *a case of circinate retinitis* in the right eye of an unmarried woman, aged 35, with negative clinical history, which presented the following features: The central yellowish patch was of large size, fully three times the diameter of the nerve-head, and was surrounded by a broad band of hemorrhage, beyond which was an area of healthy retina, in turn succeeded by the circinate lesions. The fundus of the left eye was healthy; both lenses showed beginning cataract. The various theories on the pathogenesis of the affection were discussed and the opinion expressed that the original cause resided in a disease of the macular vessels.

Dr. G. C. Harlan described the *technic of the Hotz Anagnostakis entropion operation.* He considered it one of the greatest advances yet made in the rational treatment of entropion, and when combined with slitting the lid, according to the Arlt method, and transplantation of a strip of skin into the margin, gives the best chance of a good result in a bad case. There are two points in which the procedure of Anagnostakis differs from that of Hotz, and these have been almost universally ignored, but may be of some importance in certain cases.

Hotz makes his incision along the upper border of the tarsus, and includes both edges of the skin in the stitches, while Anagnostakis' incision is parallel to the lid-margin and 3 mm. above it, and only the lower edge of the skin is included in the stitches. Hotz's method gives a better cosmetic result, as the slight scar following immediate union of the two edges of the skin is concealed in the furrow along the upper border of the tarsus. It does not, however, evert the lid-margin so decidedly as does the plan followed by Anagnostakis. In the latter the narrower strip of skin, with its raw edge stitched directly to the cartilage, exerts a strong traction. The form of operation must be determined by the conditions in each individual case. In a recent operation the Hotz incision and the Anagnostakis stitch gave a most satisfactory result.

Discussion.—Dr. de Schweinitz, in suitable cases, preferred the Hotz operation to other surgical procedures for the treatment of entropion. He usually selected the skin back of the ear for the intermarginal flap. Both eyes are bandaged, and the dressings of gauze soaked in salt-solution are not disturbed for 72 hours. When the extreme tips of the skin-graft failed to adhere, he inserted additional grafts at these points at the first dressing. He thought that cocaine could be employed in all cases, since the only severe pain was from the first incision in the lid and in the removal of the graft from behind the ear. Dr. Ring had secured excellent results with the operation, but believed ether was the preferable anesthetic.

WILLIAM M. SWEET,
Clerk of Section.

A Latin-American Medical Congress has lately been organized and met in Santiago de Chili the last week in December, 1900. There were five sections, viz: Internal medicine, surgery, pharmacy, natural science, hygiene and dentistry. There were several articles presented relating to the eye, and especially its conditions in sub-tropical countries.

NEWS ITEMS.

Personals and items of interest should be sent to Dr. Frank Allport, 92 State Street, Chicago.

Dr. V. Grosz, of Budapest, was recently made professor.

Dr. Bach, of Wurzburg, has recently been offered a professorship at Marburg.

Professor Hess and Professor Bernheimer have been awarded the Graefe prize.

Privatdocent, Dr. Addarrio, until recently in Catania, has established himself in Naples.

At Palermo, Dr. Ladoto, first assistant of Professor Angelucci, is now fully qualified as professor.

P. H. Mules, M. D., Edinburg, M. R. C. S. Engl., has received the appointment of ophthalmic surgeon to Wrexham Infirmary.

Dr. J. G. Huizinga, of Chicago, takes the position of collaborator on the Annals made vacant by the advancement of Dr. Blaauw.

Professor Oeller, of Munich, has been appointed Professor of Ophthalmology at Erlangen.

Lafayette College has conferred upon our colleague, Dr. Charles A. Oliver, an honorary degree of Master of Arts.

The well-known instructors, Dr. Konigstein and Dr. Alschnig, have been made extraordinary professors at Vienna.

At the St. Peter's Hospital, Albany, Drs. T. F. C. Van Allen and G. S. Munson have been appointed ophthalmic surgeons.

Since January, 1900, the Italian journal, Clinica Oculistica, has appeared monthly, under the direction of Professor Circincione.

Dr. C. Addario has been appointed privatdocent in ophthalmology at Naples.

Dr. John Croskey has been appointed to the ophthalmological department of the Philadelphia Hospital.

Dr. John E. Weeks has been appointed Professor of Ophthalmology at the University and Bellevue Hospital Medical College.

Dr. Robert Casperson, of Camden, N. J., has been appointed to the Ophthalmological Department of the Camden City Dispensary.

Dr. F. W. Harvey has been appointed to the Ophthalmological Department of the Royal Victoria Hospital, of Montreal, Can.

At the annual meeting of the New York State Medical Association, held in October, 1900, Dr. A. A. Hubbell was elected vice-president.

In the medical department of the Western Reserve University, Dr. William E. Brunner has been made demonstrator of ophthalmology.

Dr. Edmond E. Blaauw, of Buffalo, N. Y., has been appointed editor for Dutch ophthalmic literature in the Annals in the place of Dr. Wendell Reber, resigned.

Dr. William Cheatham has recently been appointed ophthalmic surgeon, and Dr. L. Baltze, assistant, to the Masonic Widows' and Orphans' Home at Louisville, Ky.

Prof. J. W. Kostenicz, of Warsaw, has been selected to fill the position formerly held by Dr. Dohnberg, in the Clinical Institute of the Grand Duchess Helene Paulowna, at St. Petersburg.

At the annual meeting of the directors of Mary Fletcher Hospital, Burlington, Vt., Dr. Marshall C. Twitchell was elected ophthalmic surgeon.

The Maryland Ophthalmological and Otological Society has elected Dr. Hiram Woods president, and Dr. Henry O. Reik secretary and treasurer.

Drs. Allen T. Haight and J. G. Huizinga have been appointed to the Ophthalmological Department of the Cook County Hospital, Chicago, Ill.

Messrs. Bailliere, Tindall & Cox, of London, have lately published a practical work on "Acute and Chronic Contagious Ophthalmia," by Dr. Sydney Stephenson.

Dr. Frank Stephen Milbury died at Brooklyn, Aug. 29, 1900. He was connected with the New York Eye and Ear Infirmary and with the Bedford Hospital.

Dr. Scurry L. Terrell, of Dallas, Tex,, was appointed chairman of the Ophthalmological and Otological Section of the Texas Central Medical Association.

An ophthalmic hospital, with thirty-two beds and appropriate rooms for out-patients, was opened at Karlruhe, Sept. 15, 1900, under the direction of Dr. Th. Gelpke.

Dr. Henry A. Beaudoux, Fargo, has been appointed oculist and aurist of the divisions of the Northern Pacific Railway which end in Fargo. The territory extends from Mandan to St. Paul.

The Episcopal Eye, Ear and Throat Hospital, Washington, recently elected Dr. E. Oliver Belt secretary of its board of governors, re-elected the assistant and attending physicians, and also elected Dr. John B. Nichols pathologist.

Dr. H. V. Würdemann, of Milwaukee, at the invitation of Dr. Frank Allport, delivered an interesting lecture Feb. 28, before the Northwestern University Woman's Medical College, upon the subject of "Injuries to the Eye."

The Platt Pavilion, an addition to the New York Eye and Ear Infirmary, erected to the memory of James N. Platt, though the generosity of the family of the late Justin A. Bliss, will be open to the public in a few days. It is a fireproof edifice and contains isolated wards for the treatment of contagious ophthalmia.

Western Ophthalmological and Oto-Laryngologic Association.—Dr. W. L. Ballenger, Chicago, secretary of this association, announces that the next annual meeting will be held in Cincinnati, April 11 and 12. Dr. Christian R. Holmes is chairman of the local committee of arrangements.

A charter was granted Jan. 12 to the Memphis Hospital Medical College Building Company, incorporated by Drs. William B. Rogers, Elmer E. Francis, James L. Minor, Bennett E. Henning, Alexander Erskine, Dudley D. Saunders, E. Paul Sale, B. Frank Turner and Thomas J. Crofford, with a capital stock of $40,000.

The death of Pierre Desire Lebrun took place at Brussels, Aug. 24, 1900. He was born at Renlies in 1836. Lebrun studied medicine in Loewen and finished his education at Paris under Sichel, Chassagnac and Desmarres, in London with Bowman and Chritchett.

Rush University, of Chicago, has lately established extraterritorial relationship with the Clinical Dispensary of the United Hebrew Charities, and from its attending medical staff has appointed as Associate Clinical Professor of Ophthalmology, Dr. Albert B. Hale.

Dr. D. B. St. John Roosa, of New York city, made a presentation address to the New York Academy of Medicine on the 7th of February. The occasion was the unveiling of the bust of Dr. Horace Green, a pioneer in the medical profession of that city.

Ophthalmological Section, New York Academy of Medicine.—At the annual election of the ophthalmological section of the New York Academy of Medicine, held on Monday evening, Jan. 22, the following officers were elected for the ensuing year: Chairman, Dr. John E. Weeks; Secretary, Dr. Henry H. Tyson.

Nov. 29, 1900, a new ophthalmic hospital was opened at Moscow, which was founded and endowed by Mrs. Barbara Alexcewa and transferred to the municipality. It consists of a hospital department of fifty-four beds and a well equipped dispensary. The surgeon in charge is Dr. C. Adelhaim.

Assemblyman Linn has recently introduced a bill in the New York Legislature to amend the health law by adding a section providing that "books, newspapers or serial literature shall not be published in type smaller than eight-point, of which the lower case alphabet measures less than fourteen ems. The lines of type shall be separated by at least two-point leads."

Among the chairmen of committees for the meeting of the American Medical Association in St. Paul, we find the following names: Dr. John F. Fulton, on the committee of arrangements; Dr. J. W. Chamberlain, on badges; Dr. Cornelius Williams, on banquets, Dr. Edward Boeckmann, on pathological specimens.

Retinitis Albuminurica in Pregnancy.—Retinitis occurring in pregnancy gives evidence of a toxic condition of the blood, which endangers the life of both mother and child, and unless remedies prove efficacious, abortion is justifiable, especially when it occurs in the early stages of pregnancy, or if a previous pregnancy has already injured the retina or the optic nerve.—*Francis W. Alter.*

Dr. W. M. Cowgill, of Paducah, Ky., recently had an unpleasant affair with a woman patient, who claims that he insulted her by winking at her on the street, for which alleged offense she struck him with a whip. We merely mention the matter so that it may be understood by the doctor's friends that after reading the evidence Judge Sanders fined the woman $100 and completely exonerated the doctor from the blame of the affair.

The sixth annual meeting of the Western Ophthalmological and Oto-Laryngologic Association will be held at Cincinnati April 11-12, 1901. Dr. M. A. Goldstein, of St. Louis, is President; Dr. H. V. Würdemann is Vice-President, and Dr. William L. Ballenger, 100 State street, Chicago, is Secretary. The following is the preliminary program:

1. Dr. J. H. Johnson.....Kansas City, Mo.
   Paralysis of the Accommodation Following Diphtheria.
2. Dr. John J. Kyle.....Indianapolis, Ind.
   Obstruction of the Lachrimal Duct and Its Treatment.
3. Dr. Norval H. Pierce.....Chicago, Ill.
   Treatment of Some Purulent Conditions of the Antrum of Highmore Through the Natural Opening.
4. Dr. A. H. Andrews.....Chicago, Ill.
   The Abortive Treatment of Otitis Media.

5. Dr. F. A. Phillips.....Chicago, Ill.
Hysterical Disorders of the Eye.
6. Dr. J. S. Mott.....Kansas City, Mo.
Wounds of the Cilliary Body and Their Treatment.
7. Dr. George F. Keiper.....Lafayette, Ind.
Subject to be announced later.
8. Dr. J. O. Stillson.....Indianapolis, Ind.
Resection of the Supra-Orbital Nerve.
9. Dr. Horace Heath.....Veedersburg, Ind.
Cautery Dissection of the Tonsils.
10. Dr. M. F. Weyman.....St. Joseph, Mo.
The Relation of Chalazion, Internal Styes and Tarsadenitis.
11. Dr. Ellet O. Sisson.....Keokuk, Ia.
Report of a Case of Contused Wound of the Eyebrow Followed by Marked Visual Disturbances.
12. Dr. Hal Foster.....Kansas City, Mo.
The Cause and Treatment of Laryngeal Edema.
13. Dr. A. R. Amos.....Des Moines, Ia.
Subject to be announced.
14. Dr. Edwin Pynchon.....Chicago, Ill.
Subject to be announced.
15. Dr. J. G. Hallinger.....Chicago, Ill.
Spongification of the Bony Capsule.
16. Dr. J. G. Huizinga.....Chicago, Ill.
A New Cataract Operation.
17. Dr. W. L. Beardsley.....St. Louis, Mo.
Subject to be announced.
18. Dr. J. W. May.....Kansas City, Mo.
Subject to be announced.
19. Dr. W. Scheppegrell.....New Orleans, La.
Subject to be announced.
20. Dr. Frances Dickinson.....Chicago, Ill.
Drainage of the Eye as a Basis of Treatment.
21. Dr. B. E. Fryer.....Kansas City, Mo.
Subject to be announced.
22. Dr. H. W. Loeb.....St. Louis, Mo.
A Means of Reducing an Overgrowth of the Intermaxillary Frenum, Permitting the Retention of Two Central Incisors in Close Apposition.
23. Dr. Dudley S. Reynolds.....Louisville, Ky.
Therapeutic Value of Odrenalin.

PHYSIOLOGIC OPTICS

DR. M. TSCHERNING

Ocular Dioptrics—Functions of the Retina—Ocular Movements *and* Binocular Vision

By DR. M. TSCHERNING

Adjunct-Director of the Laboratory of Ophthalmology at the Sorbonne, Paris.

AUTHORIZED TRANSLATION

By CARL WEILAND, M. D.

Former Chief of Clinic in the Eye Department of the Jefferson College Hospital, Philadelphia, Pa.

This is the crowning work of the century on physiologic optics, and will mark a new era in optical study. Its distinguished author is recognized in the world of science as the greatest living authority on this subject, and his book embodies not only his own researches, but those of the several hundred investigators who, in the past hundred years, made the eye their specialty and life study.

Tscherning has sifted the gold of all optical research from the dross, and his book, as now published in English with many additions, is the most valuable mine of reliable optical knowledge within reach of ophthalmologists. Its reference list comprises the entire galaxy of scientists who have made the century famous in the world of optics.

"THE KEYSTONE has done many an oculist a great service, to bring out so useful a book."

HERMAN KNAPP, M. D.,
Review in *Archives of Ophthalmology.*

"This book contains the cream of optical subjects. It is the best work on the subject, up to the present time."

J. S. OWEN, M. D.,
Detroit, Mich.

"It is not simply a compilation of classical theories, but an exposition of valuable original research, as well."

GEO. M. GOULD, M. D.,
Review in *Philadelphia Medical Journal.*

"It has often been a matter of regret that there existed no English translation of Helmholtz's great work. There will, henceforth, be far less reason for such regret. The book upon the subject by Dr. M. Tscherning has been translated by Dr. Carl Weiland, and published by THE KEYSTONE."

EDWARD JACKSON, M. D.,
Review in *Ophthalmic Record.*

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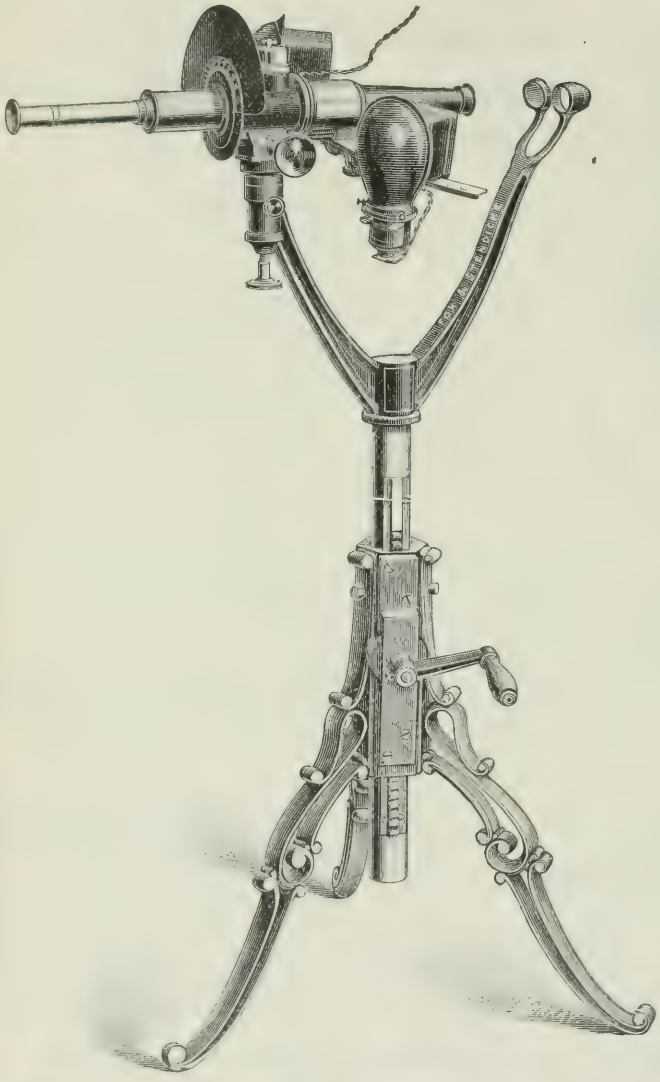

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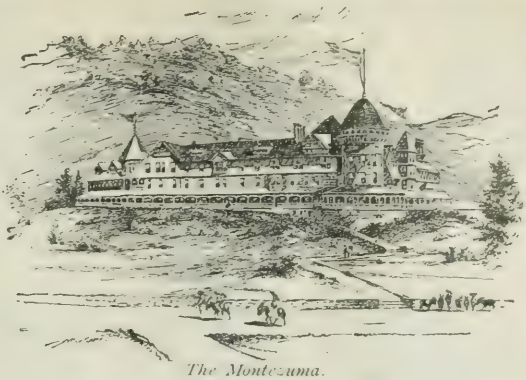

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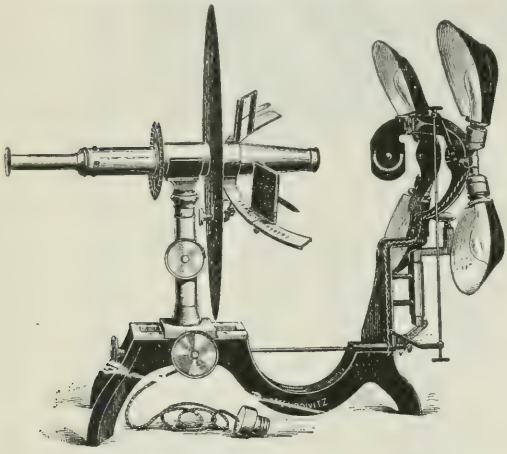

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